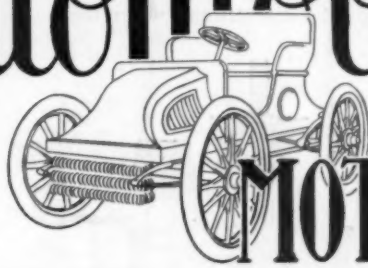


The Automobile and WEEKLY MOTOR REVIEW



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The White Steam Carriage

WHEN each vehicle finished the 100-mile A. C. A. endurance run Memorial Day it ran into a side street where officials were waiting to fill its gasoline tank, and, if a steamer, its water tank also. Consumption of fuel and water were points in the test as important as the time spent on the road. The vehicles had been sent out with the tanks full. The amount taken to refill them at the finish represented the amount consumed on the trip. The steam carriages had been divided into two classes—one to make the run without a

sumed during the last one-third of the run.

One of the three non-stop steamers was B 65. When the cover was removed from its water tank it seemed to be about three-fourths full. The refilling hose was attached and the water turned on. When the water reached the top of the tank and was turned off the driver started away toward the spot where the gasoline consumption was to be similarly measured. But the man who had charge of the water meter attached to the filling hose stopped him peremptorily.

"Here, come back; the meter shows only

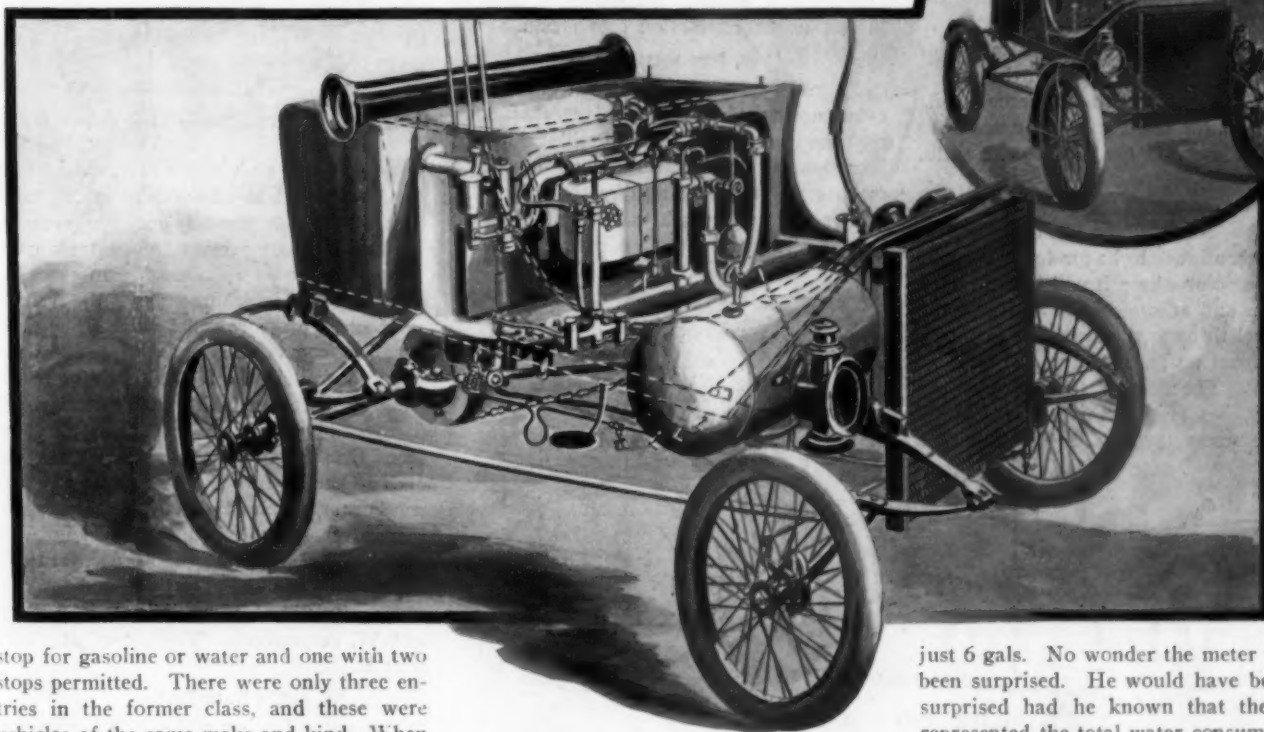
of pipes which resembled the water cooling system of a gasoline car.

"What are they?" asked the water meter man.

"Oh, nothing but condensers," returned the bystander, "but they are the cause of that eight-tenths of a cubic foot."

The water meter man retreated and B 65 moved on to receive its gasoline.

Eight-tenths of a cubic foot represents



stop for gasoline or water and one with two stops permitted. There were only three entries in the former class, and these were vehicles of the same make and kind. When their tanks were refilled at the finish the amount required represented the total consumption for the run, whereas the amount used in refilling the tanks of the other steamers represented only the amount con-

sumed during the last one-third of the run. The lowest before this was over four cubic feet. There is something wrong."

A bystander called his attention to the front end of the vehicle, pointing to a series

of pipes which resembled the water cooling system of a gasoline car. He would have been more surprised had he known that the 6 gals. represented the total water consumption for 100 miles instead of for 33 1-3, as he had presumed.

When the gasoline tank was refilled it took just $5\frac{3}{4}$ gals.

The natural question of an observer of

these consumption measurements would be:

"What steam vehicle is it which will run 100 miles on 6 gals. of water and less than 6 gals. of gasoline?" B 65 was a White steam carriage, driven by Windsor T. White, of the White Sewing Machine Co., of Cleveland.

The Chief Characteristic

The second inquiry likely to be asked would in all likelihood be:

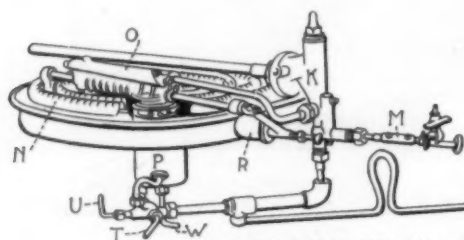
"What is the difference between this steamer and the ordinary steam carriage that it can run so far on so little water and gasoline?" One difference is that the White has an economical steam generator, and another difference is that the White steamers in the endurance run were fitted with steam condensers which returned the exhaust steam as water to the reservoir.

The White steam boiler is in reality not a boiler. It is a steam generator which belongs to a class of its own. From a constructional standpoint it possesses some of the characteristics of a water tube boiler, and from the point of operation it resembles the flash boiler. Yet it is neither. For convenience and because of the lack of a more expressive name its makers term it a semi-flash steam generator.

Construction of Boiler

It is built of twelve layers of helically coiled tubes which are encased within a heat retaining shell and supported directly above the burner. The layers are not continuous, being separate and each connected to the next one below it by a riser pipe, which extends upward above the whole series before running downward into the lower of the two layers connected by it. Thus in the accompanying illustration of the boiler the tube D rises from the uppermost coil and extends to the second coil; E rises from the third coil and extends to the fourth; F, from the fifth to the sixth, etc.

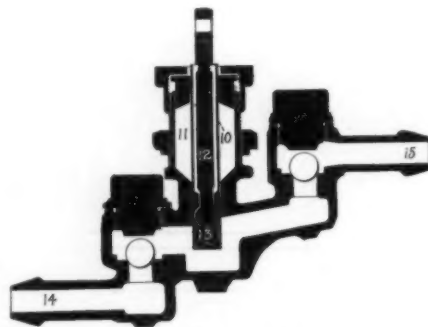
The water enters the generator through the pipe A. As it passes from one coil to another it continues to be gradually brought toward the point where it will be converted into steam and at some point in its downward travel through the system is instantly changed from water to steam. This point is variable. The flow of the water is not by gravity, but by a positive pump, which forces the water through the generator in



THE GASOLINE AND BURNER SYSTEM

accordance with the requirements of the working load of the engine, and it is to prevent a gravity circulation of the water that these risers, instead of direct downward connections, are employed.

The water is thus forced from one coil to the next with mechanical precision, and the point in its circulation at which it is converted into steam depends upon the rapidity of the circulation; when the en-



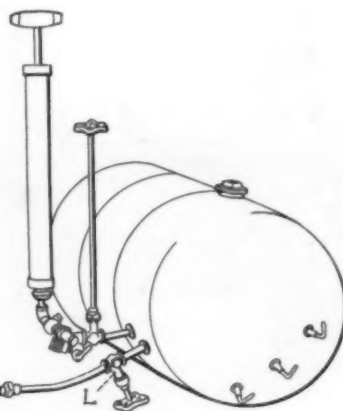
The Water Pump

gine is under a light load the water is converted into steam at a higher point in the system than when it is running under a heavy load. In either case, however, the change is instantaneous.

There is no boiling of the water, as in an ordinary fire or water tube boiler, on account of the fact that the water is circulated and gradually heated during a circulation through pipes whose inside diameter is but 1/4-in. Thus while the quantity of water passing through the generator is not so small and swiftly moving as in the typical flash boiler, and consequently is not converted into steam as soon as it enters the tubes, it is so small and so precisely proportioned to the requirements of the engine that the gradual heating culminates in instantaneous conversion into steam.

Dry, Superheated Steam

After the water has become steam its circulation through the lower layers of coils continues as before, and it still gradually increases its temperature until it finally reaches a pipe extending directly across the burner and underneath the entire generator system. The termination of this pipe is in-



The White Steam Generator

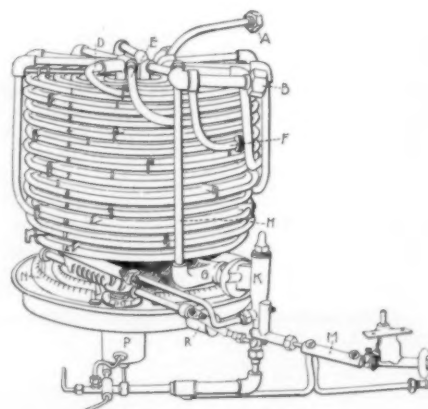
throttle steam connection B, in a dry, highly heated condition.

Ordinarily the temperature of the superheated steam is about 800 deg. Fahr. Chief among the advantages of such a system is that there is no water level to be maintained, on account of the fact that the water is always in the upper coils, through which it is automatically pumped; consequently there is none of the devices for automatically or manually maintaining a water level.

The Burner Construction

It is noticeable, both in the illustration presenting the steam generator and that showing the burner and gasoline system separately, that the fire regulator K is attached to the pipe H, through which passes the steam on its way to the throttle connection. The regulator is in the form of a thermostat, which is acted upon by the heat of the steam and not by pressure.

The other details of the burner system are clearly shown in the illustration. Beginning the enumeration of the parts at the gasoline tank, this is fitted with three test



The White Steam Generator

cocks on the end, which are used to ascertain the height of gasoline in the tank. The location of the air pressure pump is obvious. Its connection to the tank combines with the air valve having an extended operating rod reaching above the vehicle floor and a pressure relief valve. The main gasoline feed valve is at L, while M is the valve controlling the feed of gasoline to the main burners, and is fitted with connections to extend upward for actuation from the seat. One side of the main burner is shown at N; O represents the vaporizer; P is the sub-burner or pilot light, whose three gasoline valves—those for turning fuel into the drip cup when lighting the burner, for turning the fuel into the pilot light, and for regulating its flame—being indicated by T, U and W, respectively. The air mixing tube is at R.

The Water System

The water feeding and regulating system presents more novelty than the gasoline system, as its relation to the steam generator is more affected by the peculiar construction of the latter than is that of the burner. The separate illustration of the

group of parts comprising the water system shows plainly the general arrangement of its most important elements.

The water passes out of the tank through a strainer 1 and from the crosshead pump 2 is forced directly to the water regulator 3, which has the steam gauge connection 4 and the steam pressure connection 5. The water delivery to the generator feed pipe is through the connection 6, whose depending pipe extension is fitted with an ordinary blow-off cock 7. The connection for the hand pump 8, for filling the generator coils when first starting the engine, is through the valve 9 and the pipe leading to the regular delivery connection 6. The hand pump extends above the floor of the vehicle, and being directly in front of the seat is within convenient reach of the operator.

As the two most important elements of the water system are the pump and regulator, they are illustrated separately and in section. The pump plunger 10 is within a large stuffing box 11, and acts in connection with two simple ball check valves, one in the suction and the other in the delivery end of the pump. Wear in the joint between the plunger and the plunger rod 12 can be taken up by a screw plug 13, whose end is covered with solder to prevent leakage. In the illustration the suction end of the pump is represented at 14, and the delivery at 15. Corresponding numbers on the water system diagram show the disposition of the pump in the system.

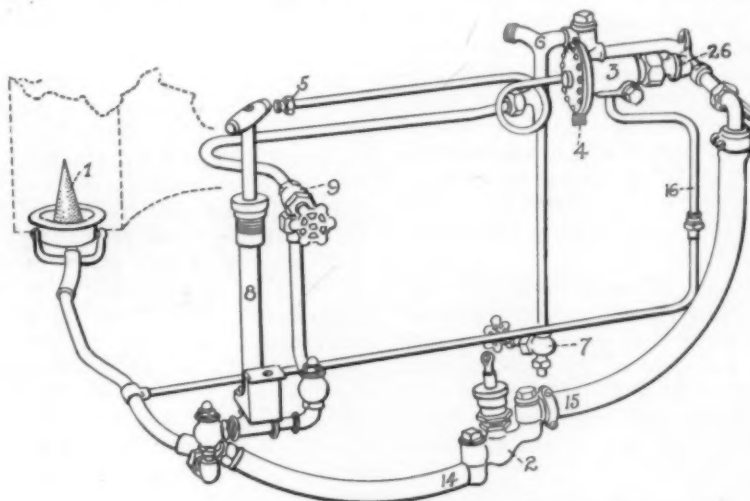
Automatic Feed Regulator

The threaded end 25 of the water regulator is attached to the by-pass union with the water feed pipe extending from the pump, this union being between the pump and the connection with the generator supply pipe, as shown at 26 on the water system diagram. Within this end of the regulator is the valve seat and valve 21, whose steam attaches to the valve end cap 20. The latter has a limited play—about 1-32-in.—between its seat and the diaphragm 18, and is backed by the stout steel spring 24. The valve stem being angular in cross section, a passage is afforded between it and the wall of the reduced portion of the central bore of the regulator. A worm adjusting screw is seated in the socket indicated at 23. The steam pressure connection is made at 17, and a by-pass leading from the pressure space in front of the diaphragm extends to the steam gauge connection 19. The by-pass 16—shown in the diagram of the entire system—is attached to the regulator at 22, being thus connected with the interior of the device.

When the steam pressure is below a certain point, as determined by the adjustment of the regulator spring, the water valve 21 remains closed and the water passes by the regulator and directly to the generator. When the pressure exceeds the set limit it forces the valve end cap 20 backward against the pressure of the spring and consequently opens the valve 21, allowing the

water to enter the regulator and flow back through the by-pass connection 22 and by-pass tube 16 into the suction side of the system to re-enter the pump feed pipe.

entiates the White from the other steam carriages. They simply represent carefully designed and well made features, showing that the detail has not suffered in the de-



THE WATER CIRCULATING SYSTEM

Summing up the generator, burner, gasoline and water systems, the following conditions result:

The generator makes the steam as it is used and furnishes it superheated and dry to the engine. This is done in a manner which obviates the maintenance of a water level. The heat of the steam by a thermostatic regulator controls the burner flame to automatically regulate the generation of a certain amount of steam at a certain temperature, in accordance with the necessary rapidity of generation. The passage of the water and steam through the generator coils is primarily dependent upon the power pump, while the supply furnished by this is controlled by a regulator directly actuated by the steam pressure. The generation of the steam is consequently controlled by the needs of the engine itself.

The White engine is not of itself novel, being a simple two-cylinder, double-acting engine of the standard type, with link re-

sire to perfect the essential characteristics of the vehicle—a shop course which is occasionally noticeable in the development of machines possessing some one novel and peculiar feature upon which the builder relies for his greatest advantage.

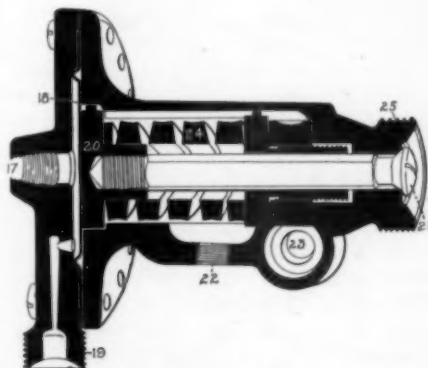
Condenser Made Possible

The power plant system described is characteristic of all White steam carriages. Recently there has been added a condenser which is more closely related to the peculiar steam generator employed than one might suppose who thinks a condenser might be readily added to any steam vehicle power plant. As one steam vehicle expert said recently, it is not the difficulty of producing good condensers which prevents their universal use, but the difficulty of producing a positive separator which will remove oil and other impurities from the water of condensation before returning it to the supply tank.

In the White generator, boiling water is not maintained in tubes or in a boiler shell. The water and steam are always moving through them under the action of the pump. It is claimed, and the claim seems reasonable, that whatever impurities the water holds will be carried through with it, thus naturally reducing the tendency to scaling. Working from this view point the makers of the White found that the water of condensation could be successfully used even though it contained some oil and other impurities. The result is the application of the condensers.

That the above course of reasoning is not unsound is shown by the fact that, although the condenser system is not fitted with a perfect separator which will remove all oil or other impurities from the water, the machines to which the condensers have been fitted have given successful road service.

The condenser comprises a series of horizontal pipes supported by end pieces which



The Water Regulator

versing gear. The other elements of the carriage, such as the running gear, bearings, body, etc., and the general disposition of the parts, have no particular effect upon the generating system, which chiefly differ-

form the inlet and discharge passages. The pipes are ribbed to assist radiation, and the whole system is suspended vertically below the extreme front end of the carriage body floor. The exhaust from the engine enters the upright end passage at the left side of the system and passes to the right through all of the second or rear bank of tubes, being delivered from these into the right upright passage and into the front bank of tubes, through which it passes again to the left and into the discharging upright passage. From this it is pumped directly to the water supply tank in the rear of the vehicle body.

As the water of condensation enters the tank it passes through a simple form of separator which is no more than a cylindrical filter composed of waste. The waste absorbs the bulk of the oil and other impurities in the water, and when it becomes loaded with such residue can be thrown away and replaced.

Consumption Comparisons

The 6 gals. of water consumed on the recent A. C. A. endurance run, as mentioned at the beginning of this article, in comparison to the lowest water consumption of 79 gals. for any other steam vehicle in the same run, is ample demonstration of the efficacy of the condenser. The fact that the White company has used it continually for months and upon both the Long Island and the A. C. A. endurance contest without finding that it reflected undesirably upon the working efficiency of the steam generator is apparently satisfactory proof that the separator problem is not a difficult one in connection with the White generator and condenser.

Summarizing the results secured with the White steam carriage B 65 in the Memorial Day endurance run, its steam generating system combined with the condenser made possible a run of 100 miles on 6 gals. of water and $5\frac{3}{4}$ gals. of gasoline, as against an average of $95\frac{1}{2}$ gals. of water and 13 gals. of gasoline for all other blue ribbon steam carriages and an average of $6\frac{1}{4}$ gals. of gasoline for all blue ribbon hydro-carbon vehicles.

While this result is as noticeable as the construction of the White generator and condenser is distinctive, the constantly attending difficulty of pumping hot water which is near the boiling point should be taken into consideration in connection with it, and it may have been that the uncertainty of such pumping conditions necessitated the frequent use of the hand pump to maintain the desired water circulation—just how much only the operator of the vehicle knows.

Taken as a whole, with its economical and automatically regulated steam generator and its new condenser system, the White carriage certainly represents a type of steam vehicle construction which is destined to have a broad effect upon the industry.



The development of the gasoline vehicle in this country was for years greatly impeded by a foolish adhesion to horse vehicle outlines, the public refusing to look at anything which bore outside evidence of its mechanical interior, and the manufacturers weakly catering to this prejudice, and even encouraging it by their assertions that no mechanical skill was required to operate their vehicles. These "horseless carriages," better named "shaftless carriages," have happily passed away, and an automobile is now frankly accepted for what it is, a mechanical road vehicle, and its builders are expected to design it to meet mechanical conditions. This stage was reached long ago in France, but it is only within the past twelve months, following the fashionable craze for imported cars, that it has been decisively approached in this country; and even now, particularly in the West, there remains something to be done in this branch of popular education.

From its inherent limitations, the gasoline motor lends itself with difficulty to "shaftless carriage" construction. It is heavier than the steam engine; it requires—which the other does not—a system of change-speed gearing between itself and the driving wheels; and access to it on the part of the operator is more frequently necessary. The American pioneer, as a rule, set himself first to get around these difficulties without abandoning the "shaftless carriage"; the Frenchman gave up the shaftless carriage and devoted his attention to perfecting the mechanism. To this fact, coupled with the excellence of French roads, may be traced the major part of the differences between European and what has come to be called "American" design.

French Motor-Front Construction

The most obvious of these diversities of practice is seen in the arrangement of the machinery. To-day, on nearly every French and German car of consequence, the motor is located in front of the dash. It is vertical, of one, two or four cylinders; and its speed is relatively high, from about 750 to 1,000 turns per minute in the larger sizes, and up to 1,600 or 1,800 in the voiturette type. A motor of high power per unit of weight is the result, but naturally its life is somewhat shorter than that of a slower running engine. Just back of the motor is a clutch, by disconnecting which the car may be stopped or gears shifted without stopping the motor, and back of the clutch is the case containing the speed changing gears. These usually comprise a series of gears of different sizes, keyed on a shaft, and a second series on a sleeve which slides on a squared shaft parallel with the other, the gears of the two series being so spaced

that only one pair can be in mesh at one time. All the shafts thus far are longitudinal to the car, and bevel gears are used to convert the motion to the direction of the wheels' rotation.

In the larger cars the wheels usually revolve on a fixed axle, and are driven by separate chains from the ends of a counter-shaft containing the differential or compensating gear. This counter-shaft is carried in brackets on the main frame, and one of the bevel-gears is attached to the shell surrounding the differential. In lighter cars the rear end of the second speed-gear shaft often connects to a longitudinal shaft with universal joints at each end, and the rear end of this shaft connects to a bevel-pinion driving a large bevel-gear on the rear axle, which in this case turns and carries the differential in itself. By the use of high-grade material—tempered steel, nickel steel, tubing and aluminum—the same refinement of weight noted in the motor is carried clear through the car, and French machines have much higher power, for a given weight, than most of those made in this country.

Details of American Practice

In this country a wholly different arrangement has been so largely adopted for machines of low or medium power as to earn for itself the title of "American." The motor, usually of one large cylinder, running at a moderate speed, is located horizontally under the seat. The speed-changing gear gives two or, at the most, three forward speeds, the planetary system being the most frequently employed. A "live" rear axle is used; and, with planetary gears, the transmission on the high speed is direct from the engine-shaft to the axle by a chain. As this disposes of both the bevel-gears and the intermediate transmission through the sliding gears of the French system, it is a very efficient system; but it has the disadvantage that, there being but two forward speeds available, the motor must be geared down to enable it to carry the car up moderate grades on the high gear, and this limits the speed on the level below what could be obtained with the motor geared for the level instead of for grades. The motor is therefore usually working above or below its most efficient speed. Again, with but one reduction of speed from engine to axle, the engine cannot be run very fast, and this makes a heavy engine and a heavy car. Minor objections are the unhandiness of getting at the motor under the seat, and the fact that trouble is sometimes experienced with the horizontal engine owing to oil working into the cylinder too freely and fouling the sparking points. On the other hand, the low cost of con-

struction is an important practical advantage of this system.

It is common in this country to decry the French cars, especially the lighter ones, as trappy, flimsy, and built to rattle themselves into early dissolution. Part of this is true, for the French artisan has a passion for mechanical refinements for their own sake, and occasionally seems to add parts merely for the pleasure of tinkering with them. The motor also has a limited life, though this is largely offset by the saving in wear and tear on the transmission and running gear, due to its light weight. On the other hand, the good roads of France, and also the high cost of fuel there, justify many features in light cars that would be unreasonable here; while machines of the heavier class, when imported here, have given ample proof that they can hold their own in speed and life on much worse roads than ever called upon to negotiate abroad. As we may look here both for dearer fuel and better roads, as time goes on, it seems safe to expect that American practice will in the end approach more to European than the reverse. Already the set of the tide in that direction is very marked.

PRODUCT OF A NOVEL PLANT

The American Motor Carriage Co.'s Gasoline Runabout and the Place Where It Is Built—
A Handsome Office.

For unique and attractive features there is probably not an establishment of the kind in the country which equals that of the American Motor Carriage Co., of Cleveland, Ohio. This company, which is now preparing to market its product, has secured a lease on the factory and headquarters formerly occupied by the Interior Decorating Co., a concern formed some years ago to make a specialty of high-class interior decorating. In the best part of the East End residence district the company erected an almost palatial residence, the interior finishings of which were designed as samples of the company's work. In the center was built a show room with elaborately finished small rooms opening off from it. In the rear of the residence and connected with it the company had its workshop, a roomy, two-story building, the entire establishment covering something over 25,000 sq. ft. of floor space. The residence was used as a clubhouse for a time, and a few weeks ago was taken over by the American Motor Carriage Co. It has been thoroughly renovated and now shines in all its former glory. Its particularly advantageous location on probably the most traveled residence street in the city makes it especially well adapted for the repair, storage and charging of automobiles, while the unique headquarters and fine show window in front makes it well suited for retail business.

Re arrangement of the Building

The front portion of the first floor of the residence has been handsomely fitted up for

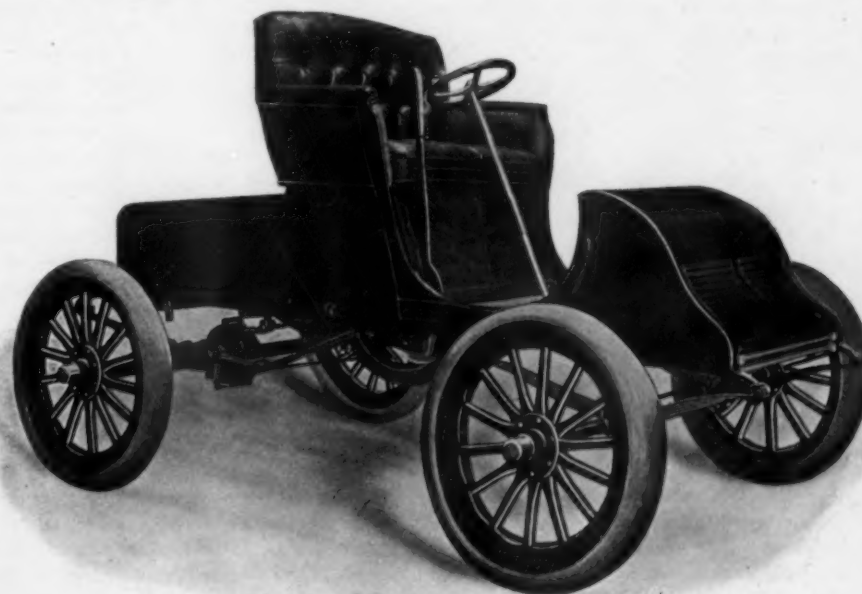
the offices of the company. Each of the small rooms opening off of the main show room will be occupied by sample vehicles, while the show room itself will be used for preliminary demonstration. Part of the second floor is being utilized as a restaurant for employees, while the front rooms will be fitted up as lounging rooms for patrons. The third floor of the house is used for designing and drafting rooms. One wing of the factory is being utilized in the manufacture of storage batteries, of which the company proposes later to make a strong feature, since it will manufacture electric as well as gasoline vehicles. The battery business is still in the experimental stages, but the company claims to have a battery which is lighter and more efficient than anything now on the market.

The factory has been well equipped with new modern machinery, and more is being installed, so that in the near future the company will be well out of the experimental stages. Plans are being made to erect a two-story steel structure, 80x200 ft., over and around the present building, so that before many months the company will have a factory of considerable proportions. It is thought that this change can be made without in the least interfering with the production of vehicles.

The Company's New Runabout

For a time the chief product of the concern will be the gasoline runabout herewith illustrated. It is fitted with a single cylinder motor, 4½x6-in. bore. The throttle is

being used. The carbureter is of the float-feed type. The exhaust is straight into the muffler, which is located very close to the cylinder and is so constructed that there is no back pressure. The muffler is fitted with a valve, so that it can be cut out without stopping the machine. The pump for the circulating system is geared direct to the main shaft. The water tank and radiating coils are in front, the entire circulating system containing about six gals. of water. An ingeniously connected lever at the side opens the switch and lubricating system at the same time, so that it is impossible to neglect the latter important features. Lubrication is effected with a single oil cup, the bearings of the engine being oiled through the center of the main shaft. The oil supply tank holds nearly a gallon, and it is only necessary to keep this well filled to insure perfect lubrication of the entire machine. Another unique feature is that the act of inserting the crank handle opens the compression valve, the valve closing when the handle is removed. The gasoline supply is sufficient for 125 miles. Ignition current is obtained from eight cells of dry battery, four at a time being sufficient when they are new. The mechanism is suspended from a steel frame, the whole resting on four semi-elliptic springs. Thirty-in. artillery wheels, fitted with 3-in. Goodrich clincher tires and Baker ball bearings, are used. The machine weighs about 1,000 lbs., and is listed at \$1,000. The organization of the American Motor Carriage Co. is as fol-



AMERICAN MOTOR CARRIAGE CO'S. GASOLINE RUNABOUT

regulated by a foot button, while the spark is automatically adjusted as the speed increases. The motor has a speed of from 250 to 800 r. p. m. At the latter speed and with ordinary gearing the vehicle will travel about 25 miles an hour. The transmission is on the planetary system, with two speeds forward and one back; a single controller

controls: President, George F. McKay; vice-president and general manager, F. D. Dorman; secretary-treasurer, J. F. Morris; engineer, George W. Dunham, and superintendent, George H. Wadsworth. The company has a preliminary capitalization of \$10,000, which will be increased very soon to \$100,000.



Faulty Steaming

THE ENGINE*

1. Leak through piston rod packing. E. Hiss synchronous with the descent of the piston; may be seen when the engine is running, or it will be continuous if the throttle be open and the wheels blocked with the piston up. It is, of course, necessary to test each cylinder separately.

R. Tighten the stuffing box nut; if leak then persists, dig out the old packing and repack with new. The most frequent cause of this leak is that the stuffing box nut is not screwed tight enough at the time of packing. See No. 15 of this section.

2. Leak through valve stem packings. E. If very loose, there may be a continuous escape of steam so long as the steam chest contains steam. If slight, the hiss may occur at either end of the stroke. Inspect and treat as above.

3. Leak through steam chest packing. E. May be so large as to prevent operation of the engine. May start with an explosive sound on throwing on an extra pressure, as in hill climbing. The leak will be continuous so long as the throttle is open or leaks. In looking for it, take off the engine jacket, as it is easily mistaken for other leaks.

R. Take off the steam chest cover, remove all adherent packing, dirt, etc., and repack with thin rubber packing—that with a small bit of canvas is the best. Tighten while hot.

It is always better to let off steam before taking off the steam chest cover, as even a slight leak through the throttle will greatly hamper the work.

4. Leak through the oil cup or its connections. E. Easily seen; hiss continuous while throttle is open. R. An aluminum or lead washer around the cap will cure leaks at that point.

5. Worn piston rings. E. Continuous exhaust while standing when throttle is open; when running, the exhaust will be more or less continuous, and there will not be that clear, sharp, separate character to the puffs. As these symptoms are present when the slide valves leak, they must first be known to be present before the leak can be with any surety ascribed to the piston rings. The two leaks may coexist, but the conditions causing leaky piston rings, while operative on the valves, are not so apt in the latter instance to produce a leak, because, however much the face of the valve be worn, if smooth it will still functionate, as the pressure in the steam chest will hold the valves against the ports, thus taking up the wear. With the piston ring the pressure

is alike at all points, and when they are worn and have expanded to the limit of their spring, further wear must allow the steam to pass. [Ordinary rings will leak also through the joint when this has opened by wear.—Ed.]

R. Take off the cylinder head, place the piston in its extreme top position, measure the distance from the top edge of the cylinder to the piston head and make note of the same so as to replace it properly. Disconnect the piston rod from the cross-head and the piston may be pushed out. Remove the old rings, spring on the new ones and replace the piston at the same distance from the top as that on which it was found. The exact distance varies with the size of the engine. See No. 11 of this section. In repacking the cylinder heads use the old packing if it be intact; but if both heads are taken off, be sure to not transpose them. Leaky rings may be temporarily helped by the use of an excess of cylinder oil.

6. Leak through the upper or lower cylinder head. E. Hiss synchronous with the revolution of the engine, continuous when the throttle is open, the wheels are blocked, and the piston head is in the end of the cylinder opposite the leak. When suspected it is best to remove the engine jacket. Leak may start with explosive effect on using high pressure, may be caused by water in the cylinder, ice, or too heavy packing.

R. If from the top, remove the cylinder heads and repack with thin packing. If from the right cylinder, the swing joint will have to be removed in order to reach the parts. If from the lower cylinder packing, the engine will have to be taken out and both sides packed, even though there be but one leaking. This is because the new packing is sure to be either thinner or thicker than the old and this would result in throwing the piston action out of plumb. To run thus would mean certain damage to the entire engine, and, what to me is worse, long and fruitless search for the source of consequent trouble. Tighten while hot.

8. Cut or roughened slide valves. E. Continuous exhaust while throttle is open. This leak is much smaller than that of cause No. 10 of this section, and the carriage may be operated. See No. 5 of this section. Take off steam chest cover.

R. If the face of the valve be not too rough, it may be allowed to wear smooth, being careful to use enough cylinder oil and have the throttle tight. The same is true of the surfaces about the ports. Rougher surfaces may be ground down by the use of a mixture of oil or vaseline with emery or carborundum of a fine grade. This grinding is very particular work, and if done

in the steam chest, all dirt should be cleared away before the engine is used. As this trouble involves the removal, replacement and resetting of the valves, it would be better, unless one be ambitious, to give the work to a professional.

9. Cut or rough cylinders. E. Same as No. 5 of this section. Can be demonstrated only by exposing the surfaces.

R. If not bad and the throttle and slide valves are tight, it may be allowed to wear smooth. New rings may help. As a last resort they may be ground smooth by a skillful machinist, or new ones put in.

The redressing of the cylinders has the disadvantage of necessitating a more frequent renewal of piston rings.

10. Upset slide valves. E. May be caused by a break or bend in any part of the eccentric mechanism, preventing the operation of the valves. When this happens the engine and the carriage may stop instantly, because the steam is not so directed as to return the piston.

Valves may be displaced by moving the carriage while steam chest contains ice. With the throttle open there will be a large leak of steam through the exhaust and the engine will not move. Be sure that the wheels are not blocked and that no stones or anything has been wedged into the engine (this has happened). Look over the eccentrics and their connections. If sufficient damage be found to account for stop, fix it and test again with throttle; if leak persists, take off steam chest cover and inspect the valves. They may require nothing more than being pushed into place, but if the valve stems are bent, which will be the case if ice has caused the trouble, they must be straightened. This is best done by loosening the lower end of the stem and turning it so that it will lean toward you when it can be bent back. In doing this be sure to have in a fixed position the point at which the bend occurs, else while straightening in one place you will bend in another, and might then have to take out the stem. See No. 12 of this section.

11. Piston heads in one or both cylinders not properly centered. E. Unless sufficiently cut to strike at one or the other end of the cylinder, the condition may not be suspected, as its manifestations are not gross. The only indication is a slight inequality in the exhaust, and as that may arise from improperly set valves, the latter must be eliminated from the problem. However, as the valves are less likely to become displaced, and the pistons do commonly work upward unless watched and kept tight, it is reasonable to first suspect the pistons; besides, the setting of the piston heads is a very simple matter and that of the slide valves is not. I set the pistons in the following manner: Disconnect the cross-head, push the piston to the extreme top and mark the rod close up to the stuffing box nut, then put the piston in its extreme low position and mark the slide at the point reached by the mark on the rod; connect the rod with the crosshead so that in the

*The Third of a Series of Articles by Dr. Paul Norwood Begun in The Automobile of March, 1902

upper position the mark on the rod is the same distance below the stuffing box nut as, in the lower position, it is above the mark on the slide. If this be done with both pistons, and you still have a ragtime exhaust, then the valves need setting. See No. 10 of this section.

12. Slide valves not properly set. E. Unequal exhaust not due to pistons. May be caused by bent eccentric connecting rods, or by looseness in any part of their controlling mechanism.

R. If eccentric connecting rod be injured, the best thing to do for temporary relief is to put one of the backing rods (those in front) in its place, straightening the other at some other time.

Directions for setting the slide valves have been very ably presented by Mr. Hanchett in the February and March numbers of *The Automobile*, pages 36 and 60, respectively, to which the reader is referred. See No. 10 of this section.

13. Looseness anywhere between the eccentrics and the valves, giving rise to late cut-off. E. Evident on inspection, tighten straps by filing off the ends, new blocks in old links, old blocks in new links, or both new may be needed at that point. New pins may be all that will be required. Looseness amounting to play in any part of the engine will result in a waste of energy.

14. Cylinders not closely jacketed, resulting in a loss of heat. E. None except the general one under treatment, but see that all parts carrying live steam are thereby covered with a thermic nonconductor, as asbestos or a compound containing ground cork.

15. Leak through piston stuffing box threads. E. Appears much the same as No. 1 of this section, and is not easily distinguished therefrom unless the part be well lighted. R. Screw in the stuffing box (not the stuffing box nut).

16. A leak of steam from the exhaust, directed downward so as to be drawn into the burner. One may be aware of such a leak, but without some study its effect on steaming may never be suspected, because it is operative only while the carriage is running forward (running while jacked up will not show the trouble in all such cases), and as the steam from the exhaust has done its work, one is apt to think the leak of no material consequence. An assistant who understands what is wanted may see the steam enter the burner.

R. If leak comes from the parts close to the engine, the latter will have to be taken out. Other points are usually accessible enough.

16. Overloading the carriage. E. You may not know it unless you are familiar with the particular engine, when the exhaust will be heavier than when lightly loaded.

(To be concluded next week.)

THE MORGAN STEAM TRUCK

The New Liquid Fuel Vehicle Now in Course of Manufacture at Worcester, Mass.—The Morgan Watertube Boiler

In that development of the commercial vehicle which is now gathering headway in this country, the motor truck designed for fairly heavy loads has an important place. The work on this class of vehicles has thus far been largely experimental, but the progress made of late warrants a belief that in a very short time the motor truck will be as much an everyday affair in the streets as is now the more aristocratic tonneau. While busily engaged for some years past in the designing and manufacture of lighter classes of vehicles, Mr. Ralph L. Morgan has devoted a great deal of time to the study of the steam truck; and, as announced some time ago, he is now established at the head of a large plant at Barber's Crossing, Worcester, Mass., where he will devote his attention entirely to heavy steam vehicles, using kerosene for fuel.

The new Morgan steam truck, here illustrated, is the result of a course of long study and experimental work, backed up by a good modern plant and the best materials obtainable. The vehicle is built with an under-frame of 4 ins. channel steel with

internal-gears are enclosed with mud-guards to prevent grit getting into the teeth. Arrangements are provided on the counter-shaft so that the compensating-gear may be locked. There is no change of gears for different speeds, the regulation of speed being accomplished by means of the high-pressure steam-valve, and when extra-power is required high-pressure steam is let into the low-pressure cylinder, as referred to in the description of the engine. The steering axles are forged nickel steel, and the rear axles are specially heavy, with large, plain bearings.

The engine is of the cross-compound type, with cylinders 3 and 6 by 5 ins. Nothing has been neglected in the design, material or workmanship which is essential to the severe service demanded in a truck engine. The crank-shaft is forged from a billet of nickel steel, the eccentrics being forged solid with it. The cross-heads are of phosphor-bronze and the connecting-rods are of nickel steel forgings. Steam may be admitted at will at initial pressure to the low-pressure cylinder, enabling the engine to start, whatever the position of the high-pressure piston, and giving added power for hills.

The well-known Morgan water-tube



THE NEW MORGAN STEAM TRUCK.

tubular stays from front to rear axle. The boiler is placed as shown, at the front, and the engine is attached to the under-frame near the center. The power is transmitted to the driving shaft by means of bevel gears running in oil-tight cases made dust-proof, provided with long white-metal bearings. The lay-shaft is made telescopic, to allow for the action of the springs. The counter-shaft carries the compensating-gear, and has steel pinions on each end engaging with large internal cut-gears of bronze, fastened to a steel plate, which in turn is made fast to the felloes of the wheel. These

boiler is used, with a special self-regulating burner formed from a single casting. By means of the automatic regulator the fuel supply is shut off as the pressure reaches a certain point, being turned on again as the pressure falls on starting, or for other causes. The fuel is carried in two tanks of 25 gals. capacity each; sufficient for a run of 100 miles.

There are many points about both truck and machinery which are deserving of a more detailed description than is possible at this time, and we hope in the near future to describe them at greater length.

The Endurance Test

The official tables of the A. C. A. endurance run of May 30 were not made public until June 10, and up to the time of going to press the brief record of the speed trials of May 31 had not been given out. These latter, however, should differ very little from those published last week in THE AUTOMOBILE AND MOTOR REVIEW. The following tables give the complete official record of every vehicle entered, with the exception that no report is made of the non-penalized stops. Many of the winning cars made the full run without a stoppage of the wheels for any cause.

The full details of owners, weights and power will be found in the table published last week.

NON-STOP CERTIFICATES.

Class A.—Gasoline Vehicles.

Maker.	Consumption of gasoline, water.	gals. gals.
12 George N. Pierce Co.....	4	
23 U. S. Long Distance.....	4½	
27 A. Darracq & Cie.....	5	
28 A. Darracq & Cie.....	4½	
32 Ohio Automobile Co.....	6½	
33 Mors, Paris.....	7	
38 Georges-Richards.....	8	
39 Georges-Richards.....	7	
43 Autocar Co.....	5	
50 De Dion-Bouton Co.....	6	
53 Fournier-Searchmont Motor Co. 7		
53 Fournier-Searchmont Motor Co. 8½		
56 Haynes-Apperson Co.....	5	
58 Knox Automobile Co.....	7	
59 Knox Automobile Co.....	6	
60 Knox Automobile Co.....	7	
73 Fournier-Searchmont Co.....	7	

Class B.—Steam Vehicles.

Section I.—Two Stops Allowed.

5 Grout Bros.....	12½	113.15
6 Prescott Automobile Mfg. Co.....	13¼	85.5
7 Prescott Automobile Mfg. Co.....	14	79.5
23 Lane Motor Veh. Co.....	15½	93.25
29 Locomobile Co. of America.....	13½	114.75
30 Locomobile Co. of America.....	10	89.25
67 Overman Automobile Co.....	10½	84.75
75 Locomobile Co. of America.....	16	103.5

Section II.—Under Non-Stop Rules.

64 White Sewing Mach. Co.....	6½	6
65 White Sewing Mach. Co.....	5½	6
66 White Sewing Mach. Co.....	9	9.75

NO CERTIFICATE COVERED FULL COURSE.

Class A.

Maker.	Consumption of gasoline, water.	gals. gals.
2 Ohio Automobile Co.....	7	
3 Ohio Automobile Co.....	5	
8 Mors, Paris.....	no record.	
24 Ward Leonard Electric Co.....	6	
26 Ward Leonard Electric Co.....	4½	
34 Haynes-Apperson Co.....		
35 Haynes-Apperson Co.....		
36 Peerless Mfg. Co.....	8	
41 U. S. Long Distance.....	3	
47 Panhard & Levassor.....	9	
49 Automobile Co. of America.....	9½	
55 Automobile Co. of America.....	4	
62 A. Darracq & Cie.....	7½	
73 Cottureau & Co.....	7	

Class B.—Section I.

17 Grout Bros.....	14	
21 Prescott Automobile Mfg. Co.....	10½	71.35

RECORDED STOPS.

Causes and Duration.

2 5 min.—loose clutch.	
3 28 min.—hot crank journal.	
17 15 min.—for water not at official station.	
21 2½ min.—back firing in burner.	
1½ min.—back firing in burner.	
1 min.—insufficient steam on hill.	
1 min.—insufficient steam on hill.	
24 2 min.—gas cut off.	
26 4½ min.—spark plug dirty.	
3 min.—spark plug dirty.	
2 min.—spark plug dirty.	
34 2 h. 41 min.—hot engine.	
4½ min.—oil cup.	
23 min.—gasoline and chain.	
1 min.—storm curtain.	
35 14 min.—pump, hot engine.	
4 min.—spark failed.	
1 h. 1 min.—no gasoline.	
6 min.—taking gasoline.	
36 min.—spark plug dirty.	
min.—spark plug dirty.	
41 9½ min.—chain off.	
2 min.—chain off.	
47 9 min.—hot water in pump, hot engine.	
3 min.—missed road.	
49 17 min.—spark plug short circuited.	
6½ min.—spark plug dirty.	
10½ min.—broken chain.	
4 min.—chain off sprocket.	
1½ min.—chain off sprocket.	
(missed course at N. Rochelle to Jerome avenue).	
55 3 min.—spark plug, broken connection.	
4 min.—spark plug, broken connection.	
47 min.—coil.	
1 min.—crank shaft.	
63 30 sec.—stalled on hill.	
30 sec.—stalled on hill.	
11 min.—for water.	
72 1 h. 28 min.—hot engine.	
10 min.—oil at Mianus.	
10 min.—gasoline at Mianus.	
2 min.—stalled on hill.	
1 min.—stalled on hill.	
9 min.—sparker.	

THE "CONNING HOOD."

One point, among many suggested by the accident to the Baker racing machine in the A. C. A. mile record trials, concerns the use of the "conning-hood" to protect the driver from the wind. In describing his experience after the accident, Mr. Baker said that his first intimation that something was wrong was in an "undulating motion," like that of a boat on the water immediately after passing the slight turn in the road. The machine began to sway, and he jammed on the brakes. The next moment "it seemed that the crowd of spectators was whirling past the little window in the 'conning-hood' in a circle to the right."

The "undulating motion" is significant confirmation of the report, current after the accident but impossible to verify, that the first part to break down was the tire, and more than hints that wire wheels, which, under such weights and at such speeds, may collapse in a matter of seconds if the tires burst, are out of place on any but the lightest racing machines. But, coming to the conning-hood, could anything be more suggestive than the words "whirling past the

window to the right?" Shut up in the cigar shaped case, strapped to their seats, the motion which psychologically impressed itself on Baker and his companion was not that of their machine, but the apparent motion of objects outside, relatively to the little window out of which they looked. How could any one steer an accurate course under such conditions?

With all his discomfort, that driver is safest whose outlook is wholly unconfined; but, if conning-hoods there must be, let the windows be of ample size, and placed not merely in front, but in a semicircle around the driver, so that it will be his own machine, and not the outside world, that he tries to steer.

THE ACCIDENT CASE POSTPONED

W. C. Baker and C. E. Denzer were arraigned in the magistrate's court in Stapleton, Staten Island, last Saturday to answer to the charge of homicide in causing the deaths of Andrew Featherstone and John T. Bogart on May 31. The district attorney, for the prosecution, asked for an adjournment of the case to June 11, to which date the grand jury had adjourned and when he would be ready to proceed with the hearing. The case was accordingly postponed.

"KILOMETER"

Who said kilom-meter? Several estimable gentlemen, high in A. C. A. councils, have apparently decided that the next word reform necessary is to rebaptize our old friend, the kilometre, with its accent advanced to the second syllable. Next, doubtless, we shall be courteously informed that the 60-h.p. Mors, which Fred Walsh drove over the measured mile on Staten Island last Saturday in 55 1-5 seconds, was traveling at the average speed of one kilometre, seven hektom-meters, five dekam-meters, five meters, one decim-meter, no centim-meters and two milim-meters, more or less, to the minute. Also that its gasoline tank holds steen liters, so-and-so decil-liters and a few centil-liters, if not more.

We are afraid that this particular reform will need a lot of holding down to make it stay put. The tendency of English accent is recessive, and no number of club men can make it anything else. For each and every one of the above polysyllabic monstrosities, except the third, justification may be found in Webster's International, and quite likely elsewhere. But what of that? Usage, not fads, makes the language: and who wants to hear of a "milim-meter"?

E. T. O'Kane, Urbana, Ohio, has perfected a speed register for automobiles which he claims will readily appeal to all owners of motor vehicles wherever shown. The instrument is in the form of a little clock, indicating on a dial the varying speed in miles per hour. It can be placed in any convenient position, and combines, though separate from each other, the functions of a clock, speed indicator and register of distance covered.

SUMMARY.

	Gasoline. Class A.	Steam. Class B. I. II.	Electric. Class C.	Total.
Entries	52	16 3	2	73
Starters	39	12 3	1	55
Non-stop run.....	17	8 3		28
Run with stops.....	14	2		16
Withdrawn	8	2	1	11

The Week's Patents

PATENTS ISSUED MAY 27

No. 700,743; Walter A. Crowds, of Chicago, Ill.—Transmission gear for electric vehicles and method of support in frame.

No. 700,779; Alexander W. Kent, of Boston, Mass.—Compensating structure and mounting for steering lever.

No. 700,950; Arthur C. Krebs, assignor to Ste. Ame des Anciens et Etablissements Panhard & Levassor, of Paris, France.—Method of supporting transmission and differential gearing.

No. 700,902; Walter A. Crowds, of Chicago, Ill.—Automobile running gear frame.

No. 701,069; John T. Metcalfe, of Quincy, Pa.—Spraying pump for injecting explosive mixture into hydro-carbon motors.

PATENTS ISSUED JUNE 3

No. 701,279; Louis F. and Robert C. Alt-peter, of Chicago, Ill.—Solid vehicle tire.

No. 701,307; Henry T. and Henry A. Dawson, of Canterbury, England—Magnet electric ignition apparatus.

No. 701,379; Denis H. O'Meara, of Worcester, Mass.—Spring tire.

No. 701,464; Edward T. Burrows, of Portland, Me.—Water cooling apparatus for motor vehicles.

No. 701,533; Clarence C. Bramwell, of Hyde Park, Mass.—Worm gear driving mechanism.

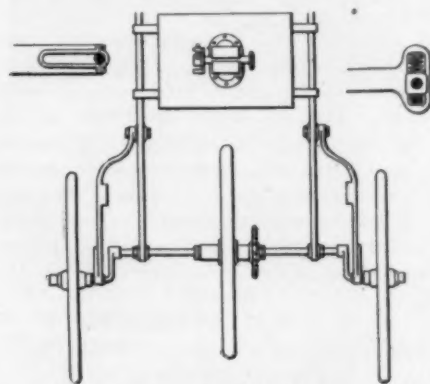
No. 701,558; Charles J. Gilling, of Chicago, Ill.—Cork tire.

No. 701,631; George H. Sherman, of Detroit, Mich.—Side spring running gear.

No. 701,695; Emmery H. Fahrney, of Chicago, Ill.—Electric ignition device.

FIFTH WHEEL TRACTION

Letters patent Nos. 700,772 and 700,926, dated May 27.—Bohn C. Hicks, of Chicago, Ill.—Both of these patents relate to vehicle



A Hicks Running Gear

frames and running gears, which provide four supporting wheels to carry the load and a distinct traction wheel for propulsion. The construction specified in the former of

the two patents is here illustrated. It is a representative pattern of the numerous experimental machines which have been built by Mr. Hicks through a course of several years of work along the line of fifth-wheel traction.

One of the principal objects of the invention illustrated is to provide a running gear of this type which will permit the supporting wheels to compensate themselves to rough road surfaces, so that they will uniformly carry the portion of the load which it is supposed they should carry. To this end the rear axle is doubly cranked, so that the axis of the supporting wheels is rotary around the axis of the driving or traction wheel. This movement is limited and controlled by connecting braces pivoted at their forward ends to the running gear frame and fastened about midway of their length to the rear of the vehicle body. They terminate in slots which encompass the rear axle. The axle is also flexibly mounted in the frame by means of vertical slots and springs, so that both the traction wheel and the road wheels have a compensating movement relative to the frame, while the road wheels have an additional compensating movement relative to the traction wheel.

DOUBLE INLET MOTORS

Letters patent No. 701,505, dated June 3—Fritz Reichenbach, of Berlin, Germany.—The invention comprises an adaptation of the principle of the Diesel motor, in which a supplemental charge of fuel is sucked into the cylinder after the first or normal charge has been ignited. The present inventor, instead of providing for a normal working charge at the first inlet, introduces as weak a mixture of vapor and air as possible and then raises the power of the impulse by the mechanically governed addition of a second charge.

In the head of the motor cylinder are arranged three valves, two for the inlet and one for the exhaust; all mechanically operated. The initial inlet valve and the exhaust valve are operated by eccentrics or equivalent devices, which are driven by gearing from the motor shaft. The supplemental inlet valve is adapted to be opened by a variable cam in the form of a conical eccentric engaging a roller on the valve stem. The conical cam is splined to its shaft and connected with the arm of a ball governor so that its position and the consequent throw or eccentric motion transferred to the valve stem roller is dependent upon the speed of the motor.

A weak mixture of vapor and air is sucked through the initial valve when it is opened and is compressed and ignited by the ordinary process. Then the second or

supplemental charge of vapor and air is introduced into the burning gases in the cylinder through the second and variably opening valve in a quantity proportionate to the speed of the motor and the working load upon it.

The inventor's patent claims are broad, as none of them specify any particular mechanical construction for putting the principle of the motor into practice.

NEW FORM OF CLINCHER

Letters patent No. 701,434, dated June 3—George A. Weidely, of Camden, N. J.; assignor to the G & J Tire Co., of Indianapolis, Ind.—The production of endless solid tires secured to the wheel rim by means of side flanges, one or both of which are removable, has undoubtedly affected the development of the heavy clincher tire. This



A New G & J Tire

invention relates to an automobile clincher tire of the well-known G & J pattern. Whether for wood or wire wheels the rim is formed substantially the same as for the regular clincher tire, with the usual turned-in edges. This rim is in two sections, however. One section comprises one curved edge, and the bottom is rigidly attached to the felly, if for a wood wheel, or to the spokes if for a wire wheel. The other section comprises the curved edge portion only, and is bolted to the rest of the rim. When for a wood wheel it is flanged so that it may be held by cross bolts passing through the felly; when for wire wheels it is provided with a series of equally spaced lugs or ears, through which stud screws extend into registering ears on the central or main portion of the rim.

This construction permits the removal of one edge of the rim and the consequent easy removal of one side of the tire's outer casing without prying or forcing it upward over the rim edge, as the solid clincher rim necessitates.

Rollin C. White, superintendent of the White Sewing Machine Co., and Fred C. Borton, with their wives, are making a tour through Ireland and to the lakes of Killarney in a White touring carriage. They have been through France and Italy, and are now leisurely proceeding through Germany and Switzerland.



MARINE MOTOR DEPARTMENT

VOGUE OF THE MOTOR BOAT

Lack of Long Distance Does Not Prevent Massachusetts Launch Owners from Becoming Enthusiastic Over Racing

The impossibility of making long distance runs through the barrier presented by a dam at one end and shallow water at the other has not prevented the introduction of the motor boat and consequent enthusiasm on the part of owners in that part of Massachusetts along the Connecticut River in the vicinity of Deerfield River, north of Holyoke. There are boats enough on the river, near the mouth of the Deerfield, to make quite a respectable flotilla. W. C. Bacon, of East Deerfield, who has a launch called *Busy Moments*, is the commodore of the fleet. *Busy Moments* has been rechristened this year, as Mr. Bacon found that the name he gave the launch last year, *Idle Hours*, was rather incompatible with the amount of labor involved in boating. His boat is fast, and on Memorial Day covered the distance from East Deerfield to Sunderland, about 12 miles, in 45 minutes, being aided by high water and swift current. The return was made in 90 minutes. Edwin Warner, a boat builder, has a gasoline launch which will accommodate six persons. Messrs. Coy and Farwell, of Turner's Falls, have a gasoline launch, and other owners are Edward Smith, Harry Dunbar and C. D. Severance. The latter's launch was built in Maine, but the motor was made by the owner. At present the boating between East Deerfield and Holyoke is excellent. The dam of the water power company at Holyoke prevents the passage of launches down the river.

LAUNCHES IN THE SOUTH

NEW HAVEN, CONN., June 12. (Special Correspondence.)—The party of New Haveners which went south last fall in the two gasoline launches *Spray* and *Viola* arrived home from Florida to-day, having sold their boats while en route to the north.

Much has been printed about the adventures of this party during the past winter, and their trip has been such a successful venture that Captain George E. Adams, of the *Spray*, has ordered by telegraph the laying of a keel for a new launch, 40 ft. long, 2 ft. longer than the *Spray*. He will have her built at Isham's yard in Mystic, where the *Spray* was built last fall, having just been completed when she was started south last fall.

Captain Adams will make another trip south to Florida with his new launch next fall, and spend the winter there.

The *Spray* was sold at Georgetown, S. C., where she had put in for a harbor, and where she was tested by a winter resident, who liked her so much that he bought her out of hand.

The *Viola*, owned by Captain Charles Meloy, was sold to a Floridian, who was so determined to get the boat that he followed the two craft some distance on their way up the coast, and finally purchased her.

THE HELIX CLUB RACES

On May 19 the Helix Club held a race on the Seine at Suresnes, the two launches of the fourth series, *Lutece* and *Rolla V.*, competing. The distance was 32 kilometers (19.87 miles), in four rounds. *Lutece* covered the course in 1:00:01, with *Rolla V.* in 1:23:52 3-5. The latter launch has already been fully described in *THE AUTOMOBILE AND MOTOR REVIEW*. *Lutece* is a newer craft, designed and built last winter by Messrs. Tellier, of Paris. She is 15 meters in length (49 ft. 3 in.), 1.90 meters in breadth (6 ft. 3 in.), and weighs but 700 kilograms (1,540 lbs.). The hull is built with three light skins, the inner one transverse, extending up to the waterline, the second diagonal, and the third fore and aft. The power includes two of the new Centaur motors, built by Panhard and Levasor, who own the launch, each being of 30-h.p. The two are mounted on a single screw shaft, to which they can be connected instantly, one or both being used at will in starting, stopping or backing.

ALCOHOL ON THE WATER

PARIS, May 22. (Special Correspondence.)—In connection with the Northern Alcoholic Circuit a motor launch race came off on the Seine, between the bridge of Pecq and Conflans, a distance of 38 kilom., or 23.60 miles. The event—which created much interest in aquatic and automobile circles—was particularly well patronized, no fewer than 10 entries having been received, including such notable craft as the Centaur, *Lutece*, *Rolla V.*, which all three run on alcohol. The Centaur has a 10-h.p. Panhard-Levasor motor; *Lutece* is provided with an 8-cylinder motor, which makes up the formidable total of 60-h.p.; as to the *Rolla*, she can only boast of a 20-h.p. motor.

The competitors were divided in two classes, according to length, in reference to their size, those under and those over 10 meters.

The longer boats had to traverse the course twice, while the little ones had only to do the single journey. Unfortunately

the wretched weather scared out most of the entrants, so that there was only one starter in each class, and the contest was reduced to a mere run over. Though the struggle was thus robbed of all excitement, the exhibition was voted a very fine one by the sportsmen bold enough to face the storm; the sight of those light craft forging their way through the water at a marvelous pace, considering their size, being a real treat to witness.

In the small class the Centaur negotiated the 38-odd kilom. in the comparatively good time of 3:18:53 2-5, and *Lutece* did double that distance (76 kil.) in 2:26:29 2-5; the speed at times was well over 20 miles an hour. In spite of the miserable climatic conditions this one experiment reached its end, since it proved that alcohol was as valuable a motive force on water as land.

GASOLINE RESISTS FLAMES

Two Large Tanks Onboard an Auxiliary Sloop were Heated by Fire, But the Fluid Did Not Ignite

The auxiliary sloop *Contest*, Capt. William Metzgar, of Bridgeport, was damaged last Saturday morning at her moorings in Bridgeport inner harbor. No one was on board at the time, and had it not been for the timely discovery of the blaze she would have been entirely destroyed. As it was, the damage is estimated at \$400, uninsured. The fire is supposed to have been due to spontaneous combustion, as there was quite a quantity of gasoline and paint aboard.

The *Contest* is used in the oyster business and is fitted with a gasoline motor. The forward portion of the hold is occupied by a gasoline tank with a capacity of 33 gals., and there is a 10-gal. tank not fixed. No one had been aboard the sloop since the previous evening at 5 o'clock, when Captain Metzgar left her. Shortly after midnight smoke was observed by one of the crew of a nearby vessel, and investigation disclosed fire in the hold. Crews of boats in the vicinity formed a bucket brigade and the tug *Fred Fenner* was sent alongside, a stream from her pumps soon extinguishing the blaze.

Fortunately the big gasoline tank was not touched by the flames, although it was warm, and the smaller tank quite hot when it was taken out of the hold. The vent in the big tank had prevented any accumulation of gas, and there was no explosion. The forward portion of the hold was gutted and holes were burned in several places in the deck, while the mast was also burned to such an extent as to be rendered useless.

R. I. Y. C. LAUNCH FLEET

Secretary Easton, of the Rhode Island Y. C., has compiled a list of the launches and their owners attached to the club, the list disclosing 36 launches, probably the largest flotilla attached to any of the smaller yacht clubs along the Atlantic coast. The list is as follows:

Angler, W. W. Orswell; Arlene, C. R.

Brayton; Arrebo, J. E. Dawson; Astro, R. H. Dowler; Behera, H. W. Roth; Carrie, W. A. Schofield; Conewanta, M. S. Carter; Dolly, R. L. Greene; Deuce, E. M. Clarke; Elangonel, G. A. Bunce; El Cid, D. C. H. Tinkham; Fulmar, J. S. Williams; Goldenrod, G. B. Langmaid; Imp, Fraser Delaney; Indus, E. L. Fuller; Jaunita, B. T. Spink; Katharine, H. C. Ripley; Kathleen, G. H. Dean; Katrina, E. P. Hawes; Lil, H. F. and R. L. Lippitt; Lotus, W. O. Todd; Lotus, S. C. Burlingame; Midget, S. O. Leavens; Mistral, M. C. Clark; Muriel, Leo F. Nock; Naiad, C. B. Payne; Naulahka, A. L. Young; Oneto, Darwin Almy; Pastime, W. L. Wood; Ruth, B. T. Potter; Ruth, George H. Leland; Sahnetto, E. A. Robinson; Tormont, I. J. S. Loeb; Velna, Archer Greene; Vif, W. O. Talcott; Yauraska, Rev. J. R. Bourgeois.

A TWIN-SCREW ELECTRIC LAUNCH

The accompanying photos show the twin-screw electric launch described in *THE MOTOR REVIEW* of March 27. The boat has since been tried and has proved most satisfactory; she will make 8 miles in ordinary running, and there is space for 22 persons as a maximum load. To quote one who has handled her, she maneuvers like a carriage. The radius of operation is 80 to 90 miles. With a load of 6 people the draught is but 14 inches. The launch is fully equipped with electric lights around the edge of the canopy, and with red and green side lights, also electric, with a 9-in. searchlight made by the Carlisle & Finch Co., of Cincinnati, Ohio. The running of the launch is absolutely noiseless, and the maneuvering is instantaneous; a switch re-



Twin-Screw Electric Launch

verses both motors, or one alone may be reversed, turning the launch in a short radius. The cost is about \$2,200.

A STRANGE LAUNCH ACCIDENT

NEW HAVEN, CONN., June 12. (Special Correspondence.)—At Norwich on Sunday last the 35-ft. launch *Lena*, owned by Bishop Church, lay at anchor off the town in a harbor which is the head of sloop navigation on the Thames River and which is less than a quarter of a mile wide. Mr. Bishop and a friend, P. J. O'Connor, were aboard of the boat, when a heavy squall swooped down with such force that a small boat moored at the stern was turned over

so quickly that when righted the oars were found still in the boat, not having had time to fall out. Then the launch began to be overturned by the wind. As she went over the two men escaped drowning by crawling out through a cabin window. The motor, which had recently been overhauled, was not fastened in the launch and went to the bottom. The two men were rescued by a boat from the shore.

ON THE UPPER CONNECTICUT

Preliminary arrangements for the annual regatta of the Springfield Y. C. have been made for July 4 at Calla Shasta, on the Connecticut River. The events will include a race for sailing vessels for club members only, which will be in three classes, to contest for the Commodore, Wheat and Ladd cups. An open race will allow any boat on the river to compete, with time allowance according to measurements, the winners to be given suitable prizes. The club will also arrange an open race for power boats, with time allowance according to the rules of The Rudder.

Capt. E. H. Smith, of the gasoline excursion boat *Sylvia*, has suggested to the club that at some convenient date a race be arranged for the *Sylvia*, *Nymphæa*, *Nautilus*, *Ledo*, *Tabasco* and *Margaret*. This race will not be so much to test the speed of the club launches as to determine the actual time in which the *Sylvia* can be put over a measured course against her opponents.

Plans are being made for a club cruise to and on the Sound at a date in July or August, to be fixed later. It is expected that about 15 boats and at least 50 members will participate. The Hartford Y. C. has offered the use of its stations along the river and on the Sound at Fenwick and New London. Some desirable location will be selected, where the party will camp out for a short time. The Thames River above New London is popular with Springfield people, and it is likely the club will rendezvous there.

THE WOODS-FROLIC COLLISION

The second investigation of the Woods-Frolic collision by the Collector of Customs of Toledo, Ohio, has resulted in the imposition of a fine of \$500 on Capt. Charles W. Fitts, of the tug *Woods*, and of a fine of \$200 on J. W. Hepburn, of the launch *Frolic*. Still another inquiry will be held by the local inspectors of hulls and boilers.

THE TORPEDO BOAT WILKES

The new torpedo boat *Wilkes*, built by the Gas Engine & Power Co. and C. L. Seabury & Co., made her official trials last week off Newport. On the standardizing runs over the measured mile in Narragansett Bay she made over 26 knots. Later on, in the continuous run at sea, she made the same and even up to 26.50 knots. This is one knot above the required speed, a nota-

ble fact at a time when so many of the new torpedo boats and destroyers are notoriously below their contract speed. The *Wilkes* is the second torpedo craft com-



Twin Screw Electric Launch

pleted by her builders, the destroyer *Bailey* being the first; a third—the *Stewart*—is now nearing completion.

NEW BOOKS ON NAVAL SUBJECTS

The D. Van Nostrand Co. announces a new book, entitled, "Notes on the Design of Propelling Machinery for Naval Vessels," prepared by the Department of Marine Engineering and Naval Construction of the United States Naval Academy for the instruction of cadets. The price is \$2.50. A new edition of J. J. Welch's "Text Book of Naval Architecture" is also announced. Another new work is on "Watertube Boilers," by Leslie D. Robertson. Prof. William L. Cathcart, of Columbia University, has in press a work on marine engine design, as well as one on statutory engine design.

Last Friday night a party of young people abandoned a small gasoline launch off Portland, Conn., the boat having taken fire. The young people reached shore in a canoe and their launch was saved from total destruction by a boatman after a hard fight. The boat was badly damaged. The young people explained that they were afraid of an explosion, so they abandoned the launch.

From Astoria there was shipped last week a 28-ft. speed launch, equipped with a 14-h.p. Buffalo motor, to W. S. Hanscom, at the mouth of the Orinoco River, South America. The launch, designed by Fred-eric S. Nock, of West Mystic, Conn., developed 13 miles on her trial, the motor making 800 revolutions. Mr. Nock has a commission to design a 35-ft. speed launch for a Minneapolis yachtsman.

The first small auxiliary boat in use at Gloucester, Mass., for shore fishing and mackerel netting has been launched by Charles Lloyd at Gloucester. She is 38 ft. over all, 10 ft. beam and has a 10-h.p. Coley gasoline motor.

E. A. Ely, the Middletown, Conn., boat builder, has contracted to finish a motor launch for Clarence E. Brockway, of Middletown, in three weeks. The boat will be equipped with a Palmer motor.



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H. M. SWETLAND, President and Gen'l Manager

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EDITORS

W. P. STEPHENS, New York

HERBERT L. TOWLE, New York

H. W. PERRY, New York

E. RALPH ESTEP, Chicago

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PUBLIC AUTOMOBILE CONTESTS

The condemnation of "speed trials" on the road, which presumably includes road races of all lengths, is a concession to public opinion as well as to sensational clamor on the part of the daily press. It is possibly justified under the circumstances, but if rigidly adhered to throughout the country it is likely to have a distinctly detrimental effect upon the automobile industry. At the present time, and for some years to come, there is a need for public exhibitions of all classes of motor vehicles, and it may as well be recognized at once that to best serve their purpose such exhibitions must be sensational rather than technical. In order to interest all classes of the public and to give to makers such publicity as will stimulate them, there must be present in such exhibitions all the elements of a real race. The experience in France has proved the great value of long road races, and there is no doubt that similar contests in different parts of this country would further both the improvement and the general popularity of the motor vehicle.

The forms of public display now open to the automobile are the indoor show, the consumption trial, the endurance run, the track race and the road race. Of these the show has a distinct but limited field of its own; the consumption test excites no public interest, and the endurance run, while useful to a certain extent, attracts the public mainly because of the failure to appreciate the fact that it is distinctly not a race. In every run thus far held in this country the participants were constantly met with the

inquiry of who was ahead or who had won. We need not inquire too closely into the exact reasons for the indisputable popularity of speed races with the public; it is quite possible that, with the automobile, as in horse racing, polo and many other of the older sports, it lies mainly in the personal danger to which the contestants are exposed. It is in no way necessary to discuss whether the great crowds present along the road between Paris and Berlin last year, or later along the Ocean Parkway, in Brooklyn, were animated by a commendable technical interest in the automobile or by a mere refinement of the feeling which takes a Spaniard to the bull-ring; the one vital point is that road racing is desirable—if at all practicable. While track races must in many cases take the place of road contests, they are in many ways less satisfactory.

The best solution of a difficult matter is that already under discussion about New York, of a special roadway for motor vehicles, to be used on occasion for long and short distance races. Such a road is needed at the present time between Long Island City and the Oyster Bay district of Long Island; not for racing, but for the convenience of the growing army of motorists who already frequent the island. If built for a distance of twenty miles or so it would doubtless be extended before many years to cover a great part of the island. With such a road in existence the problem of road racing would be solved so far as New York is concerned. The same plan is practicable near other cities, Boston, Chicago and Philadelphia, a section of private road, connecting the center of the city with some outlying system of good public roads. While necessarily expensive, such special auto-ways are needed at the present time for general use, and if constructed they could be reserved at intervals for speed trials.

Given suitable roads for racing, the competition might well be limited to strictly practicable cars, all freak and purely experimental machines being excluded. The greatest good to the industry will come from the competition of cars actually built for road service and raced as nearly as possible in ordinary condition. The technical side, the classification by weight and horse-power, should be strictly regarded, so that a new record would have some definite meaning. From a technical point of view, and that is after all the true one, the breaking by a special racing torpedo of a record made by an ordinary type of car should be a matter for regret rather than congratulation.

It is too soon yet to abandon racing; there are difficulties connected with its continuance, but they are not necessarily insuperable. So far as the public is concerned, a gentlemanly and judicious use of the public roads in ordinary running will do much to secure their free use at intervals for racing under reasonable restrictions. As for the daily press, though it leads just now in the clamor against racing, its natural instincts, from purely business motives, are toward

the promotion of all forms of sport, regardless of their danger, and the very features which make racing dangerous give it a special sensational value which cannot be long overlooked by modern journalism.

THE GASOLINE VEHICLE.

It is proposed to follow the articles on the gasoline vehicle, appearing in this issue and the one preceding, by a series taking up the different parts of the machine in detail, with numerous illustrations from both photographs and working drawings. The articles will be addressed chiefly to the user, and will aim at discussing the various features of modern practice and the classes of vehicles to which they are severally appropriate, from the point of view of the man who pays for the machine and seeks the one best adapted to his individual needs and purse. The matter of care, operation and repair, so intimately connected with both the general design and the details of construction and fitting, will be touched on likewise, and it is intended to make the series of exceptional interest and value to every user or prospective user of a gasoline car.

The articles, while bearing an organic relation to each other, will each be so far self-contained that omission to read one or more will not render the others pointless. Sketches and photographs will be freely used, but there are places where nothing else can be as effective as a mechanical drawing. The latter, therefore, will be used where necessary, and we believe that their superior precision will more than repay the moderate amount of extra pains required to "read" them.

DELAY OVER RACE RECORDS.

Up to the present time a very liberal allowance has been made in criticising the planning and management of automobile contests, as it has been generally recognized that they were more or less of an experimental nature, and that the men in charge were animated by an enthusiasm that was only equaled by their inexperience. Taking matters as they stand to-day, however, there seems to be no good reason why results should not be announced as quickly after an automobile race as after any similar contest. In the case of the endurance run of May 30 it was obviously impossible that the results should be announced on the same evening, but on the other hand it does seem unnecessary that it should require ten days for the compilation of less than fifty score cards, some of which recorded clean runs with no stops. The results of the May 31 trials, though simple and actually in hand at the end of the day, have not yet been made public; though in the case of a yacht race, a bicycle race or a horse race a much larger field of starters would have been disposed of in time for announcement in the papers of the following day. Delays of this kind are unfair to the competitors in that the interest in the contest has passed before the result is known.



CONTRACTS FOR 100 SETS

Cleveland Automobile Co. Incorporates and Completes Sample Vehicle—Automobile & Cycle Parts Co. to Move Steel Plant

CLEVELAND, O., June 9. (Special Correspondence.)—The Cleveland Automobile Co., of this city, has been incorporated with \$125,000 capital stock by A. L. Moore, M. B. Johnson, H. H. Johnson, H. N. Ensworth and Joseph B. Russell. This is the new company which is headed by A. L. Moore, previous mention of which has been made in these columns. It is the intention of the company to build a light gasoline vehicle to sell at a reasonable figure. The company will buy as much of its material as possible from parts makers. Contracts have been placed with Theodore Kundtz for 100 sets of bodies and with the Automobile & Cycle Parts Co. for as many sets of running gears. The company will build its own gasoline motors, however, and for this purpose will utilize a part of the plant of the Cleveland Machine Screw Co., of which company Mr. Moore is president. It is probable that eventually the company will erect a factory of its own, as it is the intention to produce the vehicles on a large scale. A sample machine has been completed and is undergoing tests, but it will be some time before the company will be prepared to fill orders.

Elyria Plant for A. & C. P. Co.

Several important changes are taking place in the Automobile & Cycle Parts Co. In the first place, the company's steel plant, heretofore located at South Chicago, is to be removed to Elyria, Ohio, where a large plant will be erected and the business will be conducted as a separate organization under the title of the Columbia Steel Co., although, as a matter of fact, it is understood that the new company is subsidiary to the old. Directors of the new company have been chosen as follows: M. B. Johnson, Cleveland; A. L. Crawford and George H. Ely, Elyria; Col. A. A. Pope, Boston, and R. L. Coleman, New York. The mechanical end of the business will be in charge of M. B. Marwick, who was superintendent of the plant at South Chicago. The reason for the change is the fact that the business of the sheet steel plant is growing very rapidly, and at present only about 30 per cent. of the product is utilized in the work of the parent company. With the new plant and better location for raw material, fuel and shipping, the company will branch into extended lines. The new building will be 80x400 ft., located in Elyria, on the L. S. & M. S., B. & O. and C. L. & W. railroads. Cold rolled sheet will be produced for the

present and later a hot roll mill may be added

The Hunt Plant Sold

The Automobile & Cycle Parts Co. has sold its leather bag and golf goods business heretofore conducted from the plant at Westboro, Mass., to a new concern to be known as the Worthington Mfg. Co. This company is headed by the George Worthington Co., of Cleveland, and it has absorbed the plant and business of the Fay Mfg. Co., of Elyria. In addition to the golf goods line, it will manufacture tricycles, invalid chairs, leather bags and other specialties.

The officers of the George Worthington Co. are: President, George C. Worthington, of Elyria, O.; vice-president, S. B. Leonard, of Cleveland, who will also act as general manager; secretary and treasurer, S. S. Rockwood, of Elyria, O.; directors, the executive officers and A. L. Garford and S. W. Henson.

Mr. Leonard succeeded Jonathan A. Hunt as manager of the Westboro factory last January, and will continue in the same capacity. The change of ownership will make no material difference at the factory. The same force will be employed and business will be carried on as in the past. The Automobile & Cycle Parts Co. has had possession of the plant since February, 1901, during which business has been good in the manufacture of golf goods.

There has been some talk to the effect that the Automobile & Cycle Parts Co. intended to move the golf business to Elyria, O. Manager Leonard would not say whether there is a possibility of the newly formed company moving the business to the West. He said if it should occur, it would not be until the close of the season, which is late in the fall. Manager Leonard has been connected with the Automobile & Cycle Parts Co. in Cleveland for several years.

Hoffman Steam Tonneau Nearly Ready

The Hoffman Automobile & Mfg. Co. is completing its new steam vehicle, which will be of the French pattern with hood in front. It is equipped with a very powerful engine, and Mr. Hoffman claims it will develop one-third more power than any steam vehicle on the market.

Baker Racer to be Repaired

M. L. Goss, of the Baker Motor Vehicle Co., states that the Baker racing machine which caused a fatal accident on Staten Island last week, will be repaired at once and will probably be used in another speed trial. It is almost certain, however, that the machine will never again be used at high speed on a rough, crooked road.

The Sandusky Automobile Mfg. Co. has purchased 43 acres of land on Camp St., Sandusky. Plans for the new plant are being prepared, and General Manager Frantz states that work on the plant will start in the near future.

CENTURY ELECTRICS

Two Special Vehicles to be Built by the Century Company—Gasoline Machines Out this Week—Brown-Lipe Gears

SYRACUSE, N. Y., June 9. (Special Correspondence.)—John J. Cummins, general manager of the Syracuse Lighting Co. and the Syracuse Gas Co., has given an order to the Century Motor Vehicle Co. for a specially constructed vehicle to be used by the repair and supply men in work on the wire lines. The use of electric vehicles for this purpose will be watched with interest. If his experiment is successful, Mr. Cummins will put more vehicles into use. The vehicle will be fitted with 32-in. artillery wheels, solid rubber tires, No. 13 battery, capable of driving the wagon 50 miles with one charge. The wagon will be fitted with a luggage box to carry 200 lbs. In other respects it will be like the regular Century models.

Mr. Cummins has also given the Century company an order for an electric runabout for himself. This will be the first of the new model Century machines. It will have the regular Century running gear and regular method of motor suspension. It will have a No. 9 Porter battery capable of 60 miles with one charge. The first one of the company's new gasoline touring cars will be out this week. The second order of 25,000 catalogues is now being printed for the steam vehicles, showing four models. Copy has been prepared for a gasoline vehicle catalogue showing two models.

Brown-Lipe Transmission Gears

The Brown-Lipe Gear Co. has decided to commence at once the building of transmission gears for automobiles. There will be two styles, one on the order of the French slide gear, which can be arranged with as many speeds as may be required. The company will not make stock sizes with more than three speeds and reverse. The other style of gear will have two speeds forward and one reverse. The high gear will be a direct drive with no gearing in use. The low gear will be made in two stock ratios, namely, 1 to 3 and 1 to 4, with the reverse gear slower than the low gear ahead. W. C. Chapin, in the interest of the company, has just returned from a trip to Detroit, Cleveland and other western cities to look over the situation and get an idea as to what ratios of gear the trade will require. He says that the market is ripe for a good transmission gear, and the automobile manufacturers want that more than anything else at the present time. While plans for the manufacture of the gear are practically complete, the company will be unable to make deliveries in any large quantities for several weeks. The prices will be

fixed in a few days. Patents on the gear are in the patent office, and it is understood that the claims will be allowed. The company will also put on the market a steering gear designed to overcome lost motion. This also will be put on the market in a small way this season, but the company will not be able to handle a big business until next year, when it is hoped to enlarge the factory.

Deliveries too Slow

The Syracuse Automobile Co. has been having trouble to get machines as fast as it can sell them. The show room in South Warren St. is empty most of the time. The companies it represents have been unable to keep up with their orders. The Oldsmobile is selling especially fast. The Syracuse Automobile Co. has Central New York for its territory, and has sold several machines in Ithaca, Canastota and other nearby towns.

The Stearns Steam Carriage Co., the Century Motor Vehicle Co. and the Syracuse Automobile Co. will have exhibits of machines at the Onondaga County Agricultural Exposition, to be held at Kirk Park, Syracuse, June 16 to 21. Exhibition races are also being arranged for. The exhibition is to be purely local.

BATTERY INJUNCTION GRANTED

Buffalo Electric Carriage Co. Is Restrained Temporarily from Alleged Infringement of Electric Storage Battery Co.'s Patent

BUFFALO, N. Y., June 9. (Special Correspondence.)—Some time ago the Electric Storage Battery Co. instituted proceedings in Federal Court against the Buffalo Electric Carriage Co., claiming that the latter company was making and selling a vehicle battery that was a direct infringement of the former's patent right.

On Thursday Judge John R. Hazel, in Federal Court, granted a preliminary injunction asked for by the plaintiff to restrain the Buffalo company from doing business while the action against it is pending.

Judge Hazel holds that the decisions in favor of the validity of the Brush patent, which is involved in the present suit under pleadings, are so numerous that he cannot disregard them, and he granted the motion for the injunction on the express ground that the patent has been sustained in all other cases in which the question has been raised.

The patent in question in this suit might have been issued in 1881, and consequently, the decision says, it would have expired long ago by limitation, but by reason of interference it was March, 1886, before the patent asked for was finally granted, and the time limit does not affect it until next March.

The injunction granted does not affect owners of vehicles equipped with the Buffalo company's product, and it is said that owners of vehicles fitted with the batteries have no liability to the patentee, whose

rights are claimed to have been infringed upon only by the Buffalo makers.

No accounting of profits is asked, as is customary in actions of this nature, but if the plaintiff succeeds on the merits of the case, the local corporation will be called upon to pay a royalty for future sales until the expiration of the patent next March.

A TERRE HAUTE DEALER'S SCHEME

TERRE HAUTE, IND., June 9. (Special Correspondence.)—A. Chaney, an up-to-date bicycle and automobile dealer in this city, has introduced a novel idea. He keeps a register book at his store and offers to give every man, woman or child in this city and county a free automobile ride. All who want rides must register and they are taken out in parties of four as registered. He starts three machines at 7:30 each evening and operates them until 10 o'clock every evening. Each trip covers about 2½ miles through the prettiest portion of the city. There is a steep hill on the course, which gives a practical demonstration of the power of the machine.

Hughes, Wolf and Miller, on Fourth and Ohio Sts., have put in a charging plant, and the sale of electric automobiles has taken a boom. When there was no charging plant, owners had to take their machines to the Terre Haute Electric Co., and unskilled manipulation frequently burned the machines out. Since the establishment of the charging plant the owners feel safer and several more sales of electrics are the result.

NEW MILWAUKEE AGENCIES

MILWAUKEE, WIS., June 2. (Special Correspondence.)—J. Dorsch & Son, 205-213 Wells St., one of the largest concerns dealing in carriages in this city, have secured the agency for the Rambler runabout. Leo Dorsch, who has charge of the new automobile department, brought the first sample machine down from the factory in Kenosha, Wis., over the road.

Orlando Weber, of the Weber Cycle Co., 597 7th St., has secured the agency for the Autorette, and a few days ago received his first machine from the International Motor Car Co.'s factory in Toledo. Mr. Weber is in the market for the agency for a good gasoline four-wheel vehicle. "Unless I hear from some reliable manufacturer of that class of machine," said Mr. Weber, "I will go East in a month or two and inspect several makes for which I am anxious to secure the agency." Upon securing the agency for motor vehicles he will enlarge his present place of business, and conduct an automobile repair shop in connection with the store.

The agency for the Oldsmobile is now in the hands of the Jonas Cycle Co., 728 National Ave., and C. S. Norton, who formerly handled the machine, will now handle the Kunz, it is said. E. W. Olds, of Detroit, now makes his headquarters in Milwaukee with Mr. Jonas. The Jonas Cycle

Co. is also local agent for the Haynes-Ap-person, and since the agency was established here, a few months ago, three machines have been sold and several sales are in sight as soon as additional vehicles are received from the Kokomo factory. The Jonas company is also handling the Merkel motor bicycle with success.

George Odenbrett is selling the Winton, but has no store. Four of the big Cleveland machines are owned in this city and have given satisfaction to the owners. One is utilized extensively by Dr. Lemon, official physician for the Milwaukee Electric Railway & Light Co.

DECISION IN STEERING WHEEL CASE

Judge Hazel, of the United States Circuit Court for the Western District of New York, has handed down a decision in the case of the Electric Vehicle Co. et al. vs. the Conrad Motor Carriage Co. et al. The subject of the litigation was that form of steering wheel suspension commonly known as the Elliott steering equipment, the patent for which was issued to Sterling Elliott in 1890, and assigned by him to the Electric Vehicle Co.

Under Judge Hazel's decree, the exclusive right to manufacture and use the invention is vested in the Electric Vehicle Co. and its licensees.

CHICAGO TRADE JOTTINGS

Githins Bros. report the arrival in the city on Friday of this week of the first Toledo steam touring car, an event of more than usual importance to them.

Frank Illsley, the Autocar agent here, says his sales of touring cars for the first three days of the week numbered 24, and that he has increased his order for this type of car for the season to 68.

William Hibbard, who has held every position within the gift of the Locomobile Co. at its Chicago branch and who was one of the oldest employees of that company, resigned his position on June 1 and is now a free lance. Mr. Hibbard, who is a daring operator and has a wide reputation as a racing man, says he has abandoned the strain end of the business for good.

Thursday afternoon of last week the Chicago Motor Vehicle Co. delivered two of its handsome wagons to the Cedarburg & Milwaukee Automobile Co. One of these wagons was a four-seated canopy-top brake, while the other was a 12-passenger autobus. The two vehicles made the 120-mile trip from Chicago to Cedarburg overland.

J. B. Burdette's new touring car, made by the St. Louis Motor Carriage Co., is to be equipped with two of the largest acetylene headlights made, and these lamps have on them an attachment suggested by Mr. Burdette which deserves mention. It is well known that these powerful lamps blind a person or horse directly in front of them, and to avoid possible dangers from such a thing a sliding tube has been arranged in such a way that by pressing a push-button

with his foot the operator is able to completely hide the light. This tube is in the nature of a screen, and does not, of course, put out the light, but merely shuts off the reflection temporarily. The idea is a good one, and, as it is not patented, may be adopted by any one.

A KALAMAZOO QUADRICYCLE

The Kalamazoo Cycle Co., of Kalamazoo, Mich., has just finished a quadricycle of the De Dion type, but with many novel features, that should make it popular. It has an extremely flexible running gear that renders riding on rough roads as comfortable as in an ordinary automobile. The front seat is similar to that on "quads" on the market, but instead of the operator being mounted on a bicycle saddle and obliged to pedal to start the motor, he is seated in a comfortable seat and the motor is started with a lever. Instead of a number of operating levers, one lever controls everything and also sets the brake. A worm spring on the transmission absorbs any jar in starting. The motor can be so controlled that the machine can be run at slowest speed without noticeable vibration. The exhaust is well muffled, yet the machine is very powerful, climbing hills readily. The steering device is unique, and can be used "hands off" on good roads.

The company is not prepared to put them on the market yet, and is not in a position to take orders. When it is, it will make an announcement to that effect.

THE JARVIS AUTO-PET

A safety water column that is remarkable for its cheapness, simplicity and reliability is being marketed for automobile and stationary work by the Jarvis Engine & Machine Works, of Lansing, Mich. The column for automobiles, called the Auto-Pet, is 2 3/4 ins in diameter and 13 ins. high over all, and weighs 6 3/4 lbs. Everything but the cover screws is made of the best steam brass. All the internal mechanism, including the valve and seat, is attached to the cover, and by taking out the cover screws can be withdrawn for inspection. All parts except the weights are above the water, where they will receive no deposit of lime. There is but one vertical valve, which, if necessary, can be reground in a few minutes. Unless the water gets low there is no movement, hence no wear. The rod which carries the weight extends down through the cross to the bottom, and the constant vibration keeps the sediment from lodging and thus cutting off the glass. It can be tested at any time by blowing off the column. It has no balls to collapse or to wear holes in.

THE BUCKMOBILE COMPANY FORMED

The Buckmobile Co., of Utica, was organized and incorporation papers were signed in Utica, N. Y., on May 31, to succeed the co-partnership formerly known as the Utica Automobile Co. The incorporators and officers of the new company are

A. J. Seaton, president; A. Vedder Brower, secretary and treasurer, and W. H. Birdsall, manager and superintendent. The new stockholder taken in is Mr. Brower. The company has a new plant and equipment of machinery capable of producing ten Buckmobiles a day, most of which will go into Western territory, for a time at any rate. C. B. Shanks, of the Winton Motor Carriage Co., in Cleveland, and W. H. Metzger, in Detroit, Mich., will represent them. The bodies are to be made by the Willoughby-Owen Co.

STANDARD GUARANTEE IN ABEYANCE

At the meeting of the executive committee of the National Association of Automobile Manufacturers, held last week Tuesday, no final action was taken on the matter of a standard guarantee, since, although eighteen makers had signified their approval of the form submitted, the committee thought best to secure the acquiescence of practically all of the members before committing the association to the guarantee. Hereafter regular meetings of the committee will be held on the first Tuesday of every month. The committee decided to devote a part of the profits from the Chicago show of last March to paying the mileage of members who attend these meetings from out of town.

DISTRIBUTOR FOR SHELBY TUBING

CLEVELAND, OHIO, June 9. (Special Correspondence). An important change has been announced in the method of handling the tube product of the Shelby Steel Tube Co. After July 1, Shelby seamless tubing in sizes and gauges suitable for bicycle and automobile work will be handled through the Automobile & Cycle Parts Co., of this city, while the Shelby company will confine its efforts in the selling end to tubing for other purposes.

The newly organized Automobile Club of Indiana held its initial run to Broad Ripple Park last Thursday evening. In order to convince skeptics that the electric vehicle is not a plaything, suitable only for boulevards and well-paved streets, C. E. Test, president, and A. C. Newby, vice-president and treasurer, of the National Vehicle Co., decided to go on the run with one of their regular stock machines. The run was made to a village, 8 miles outside of the city, and return, and after returning to the city the electric machine continued the run to the suburb of Irvington and returned, covering in all 49 miles, 26 of which had been over the average country roads, with some rather steep grades, the entire course being traversed very closely to a 15-mile gait.

The Park Square Automobile Station, at 43 Columbus Ave., Boston, has recently added a complete machine shop equipment to its facilities for handling the vehicles of its patrons, and is prepared to make repairs to all motor vehicles. The mechanical department is in charge of James Cramp,

whose work is well known in Boston and vicinity among builders and users of automobiles. Representatives of the Electric Vehicle Co., of Hartford, Conn.; the Buffalo Electric Carriage Co., the Grout Automobile Co., and the Indianapolis factory of the International Motor Car Co. have headquarters in this station. The electric department is capable of fully charging 20 vehicles at once. The station is conveniently located and spacious and is open day and night. All business is transacted on one floor. A. H. Longley is manager.

The Metropolitan Motor Car Co., which has a station and repair shop at 154 East 57th St., New York, will soon be in a position to not only repair, but also construct any type of automobile. Two complete floors of the building are entirely given over to the mechanical department, and the company is already prepared to do gear cutting, milling, planing, lathe work, brazing and general blacksmithing, besides building and finishing bodies. Wm. P. Kennedy, formerly manager of the Wanamaker automobile department, is now associated with the concern.

A few days ago a Western dealer who does a large business stopped in Hartford to see if he could pick up from the agencies there any gasoline vehicles for delivery during the present summer. He said that he had visited no less than 13 States, and had bought every gasoline vehicle that was offered to him for early delivery. It is a fact that the business in that class of vehicles is taking on the same aspect which it acquired in France a year or two ago. Any person who has an order in for one of the machines of recognized merit, which will bring a vehicle before midsummer, can obtain a good premium for it.

The Central Automobile Co., of New York City, which has the American agency for the Peugeot cars, has ordered a number of Peugeot gasoline trucks to be delivered in the fall. The Peugeot omnibus carried off one of the highest prizes in the recent test in France for commercial vehicles.

The Fournier-Searchmont Co. is preparing to place in the market a new model equipped with a four-cylinder, 24-h.p. engine. It will have four forward speeds.

The West Allis Malleable Iron & Chain Belt Co., of Milwaukee, which contemplates engaging in automobile machinery manufacture at some future time, has been formally incorporated with a capital stock of \$100,000. The incorporators are N. H. Schenners, C. S. Otjen and George M. Gleisner. Mr. Schenners is an extensive land owner and capitalist in West Allis, a suburb of Milwaukee, where the plant is located. C. S. Otjen is a brother of Congressman Otjen from Wisconsin and a well-known Milwaukee business man.

Foreign Topics

ON THE KILOMETER AT BEXHILL

English Speed Trials Over a French Distance—Bad Roads, Bad Weather and No New Records
—Promise of a Better Course

LONDON, May 24. (Special Correspondence.)—You may or may not read in the English papers more or less fine eulogies of the speed trials and contests held by the Automobile Club at Bexhill-on-Sea last Whitmonday, but as one who was present at these trials I beg you to swallow such encomiums with a pinch of salt. To all automobilists who know what is what the trials were more or less disappointing owing to the unsuitableness of the course, coupled with the fact that only a kilometer could be accomplished at anything like speed. Now a kilometer has no meaning in a long measure sense to the large majority of these islands, and the stated times in which it was covered is only conveyed realistically to the public by translating into the speed in miles.

Further, the times put on by the real speed cars was keenly disappointing, the slow running being due to the contour of the course, the holding state of the roads and the strong head wind. The day when the automobile speed course at Bexhill makes that painfully new seaside resort the Nice of England is, I fancy, very far distant. Still, the meeting was useful in giving the spectators a sight of racing automobiles as they are known in France, for not only did Baron Henry de Rothschild bring his 40-h.p. Daimler-Mercedes over, but so did M. Serpollet his Easter Egg. With this the latter amiable Frenchman could only get the kilometer in 41.3-5 seconds, 54.53 miles per hour; which, of course, makes a very poor comparison with his 29 seconds at Nice.

As a public spectacle the day, although cold and showery, was a success, over 10,000 spectators coming into the little town and lining the rails which bounded the course. As the kilometer times of the fast cars may not be without interest to your readers I append them for what they are worth, but the performances of the slower cars are not worthy of space.

Speeds by English Mile Standards

Gardner-Serpollet, weight under one ton, driven by M. Leon Serpollet, 41.1-5=54.53 miles per hour.

40-h.p. Panhard, driven by Chas. Jarrott, the runner-up in late alcohol race in France, 43.1-5=52 miles per hour.

40-h.p. Mors, driven by Hon. C. S. Rolls, 44.3-5=49.69 miles per hour.

40-h.p. Mercedes-Daimler, owned by Mr. A. C. Harmsworth, the editor of *The Daily News*, and driven by Mr. Campbell Muir,

48.3-5=45.56 miles per hour.

30-h.p. Wolseley, driven by H. Austin, 49.4-5=44.70 miles per hour.

40-h.p. Mercedes-Daimler, owned and driven by the Baron Henry de Rothschild, 57.2-5=39.20 miles per hour.

So far as the last four cars are concerned it is only fair to say that the course never gave them a chance of getting on to their fourth speeds, so that the comparatively slow running is not to be wondered at. The mile course at Welbeck Park, which is now being straightened by His Grace the Duke of Portland, at his own expense, and whereon the club will hold another speed meeting in July next, is very different, and, giving the favor of our fickle

no less than forty cars were held up in the neighborhood of Uckfield, in Sussex, and this notwithstanding the fact that the club fixture at Bexhill, in the same county, must have caused over £3,000 to have been spent in that town. But the end of this fatuous kind of persecution is in sight, for at last the Thunderer, to wit, *The Times*, has pronounced against it. On Tuesday last our greatest press organ in a most trenchantly written article denounced the crass stupidity and thickheaded absurdities of our country magistrates in terms which must have made the blood of those pompous antediluvians run cold in their veins. In one paragraph *The Times* writer suggested that the blockhead attitude assumed by the county magistracy toward automobilism smacked more of men who "painted their bodies with woad and champed acorns," than presumably sensible men in the dawn of the twentieth century. Other high class papers, such as *The St. James* and *The Pall Mall Gazette*, have followed the Thunderer's lead. So



THE ALCOHOL CONTEST.—CONTROL AT ARRAS.

climate, we may see some particularly fast times put on there, as one way of the course is considerably on the down grade. The club has hitherto caused the cars to run three times one way and three times the other, and taken the average of the six times, but this, of course, makes against the speed result, as the running of a car up and down hill is by no means correlative. Although the track was not adequately protected against public trespass, it is remarkable that notwithstanding the passage of over two hundred automobiles at speed during the day no accident whatever occurred.

The Police and Magistrates at Bexhill

As usual upon any public automobile function of this kind, our purblind county authorities laid themselves out to be as obnoxious as possible to the cars running down to Bexhill from different parts of the country. On the return journey to town

enraged are automobilists becoming at the idiocy of the measures taken against them that they are now beginning to refuse to stop when the police signal. This is a lamentable state of things, and may result sooner or later in the scattering of constabulary anatomy all over the road, and the imprisonment of the tyrannized automobilist.

The Late British Brake Trials

The results of the braking trials lately carried out by the Automobile Club of America have aroused much interest on this side. The completeness of the trials, and the happy idea of contrasting the stopping capabilities of horse-drawn vehicles with those of automobiles are commended on every side. I note, however, that one of your contemporaries falls into grave error with respect to the braking trials carried out at Welbeck a few months ago by our own club. It states, on what foundation I

cannot imagine, that the carriages taking part in these trials were fitted with special brakes for the occasion. This is absolutely untrue. The cars experimented with were just ordinary touring automobiles, using the brakes attached to them when sent out from the works to the everyday purchaser. This statement may create a wrongful impression on your side if not rectified.

The Show Evil in England

The utter lack of backbone shown by the trade in this country with regard to exhibition will, before March of next year, find them not upon the dual but upon the quintuple horns of a dilemma. Between November, 1902, and March, 1903, we shall be treated to no less than five exhibitions catering wholly or partially for the automobile trade and industry. The jealousy evinced toward the A. C. G. B. & I. by a section of irreconcilables among the trade, the sentimental sophistries of a show promoter and the enterprise of the Stanley Cycling Club, in seizing upon the opportunity offered by the splitting of camps, are responsible for what I can only regard as a lamentable and wasteful condition of affairs.

As I think I told you, the club has, very weakly to my mind, retired from the show business altogether, with the result that the exploiters have pounced upon the business. The feeling here is that the club should brush all these speculating gentry to one side as of nothing worth, and without any sort of dalliance with the trade beforehand hold its own exhibition in the most suitable building, take all the profits, and, specially funding them, employ them for the furtherance of the automobile propaganda which it has hitherto pushed on with so much vigor.

THE GERMAN EXHIBITION

Opening of the National German Automobile Exhibition at Berlin—The Place, the People and the Vehicle Exhibits

BERLIN, May 15. (Special Correspondence.)—The opening of the national German automobile exhibition took place yesterday in the halls of the Permanent Motor Show at Berlin, promoted jointly by the German A. C., the Mid-European Motor Car Association and the Society of German Motor Vehicle Traders. A great number of well-known personages were present at the ceremony, and the Hereditary Prince of Hohenzollern, attended by a distinguished suite of officers, was present, besides the leaders of automobilism, the Duke of Ujest, Count Talleyrand and many others. General Becker addressed the public in place of the Count of Ratibor, who was prevented from being present, the Duke of Ujest thereupon declaring the show to be opened, and the guests, invited for the festive act, separated to examine the exhibits, no less than 111 firms having rented a space.

In the first general view we were greatly struck by the signs of progress made by the exhibiting firms in motor building, the finish and elegance of the cars vying most

favorably with any French turnout. The Daimler stand was one of the chief attractions, with several of its celebrated Mercedes cars, while several factories devoted all their attention to heavy wagons for draught purposes; and motor boats, too, received a fitting home on the stand of the Duerr Company. De Dietrich is represented by an elegant coach and an omnibus. Adler has placed an 8-h.p. phaeton, a white tonneau car and a vis-a-vis motor on view, tonneau bodies domineering throughout the whole show, while motor bicycles seemed to be few and far between.

The usual accessories, together with outfitters, photographers and the never-failing literature, help to make the halls a very attractive spot to the public at large, which was expected in large numbers on May 15, when the show was thrown open to the outside world. The only drawback to the exhibition is that, lacking a hall large enough in Berlin to shelter the whole of the exhibits, such as London possesses in its Crystal Palace and Agricultural Hall, the exhibits had to be arranged in the different railway arches and adjoining localities which are the home of the Permanent Motor Show. These, however, were decorated so tastefully and so prettily lighted up that any objections, if such should have arisen, were readily waived aside.

At night a banquet in the Kaiserhof Hotel reunited the exhibitors and some of the invited guests. Prince Christian Kraft of Hohenlohe-Oehringen toasted the Emperor, General Becker the president of the exhibition, the Duke of Ratibor, while the Hereditary Prince of Hohenzollern, replying to a reference to himself, toasted automobilism in general and the automobilist clubs in particular.

Motors and Cycles in the Army

La France Militaire has published an interesting article on cycling and automobilism in the French army, contrasting the French frontier troupes with those of Germany, and drawing attention to the obvious fact that the French cavalry equals the German neither in force nor ability, and that therefore a method of strengthening this weak point would have to be found. One manner of leveling the difference between the cavalry of both nations would be to equip whole regiments with cycles and place them in exposed positions to ward off attacks until relief arrived to strengthen the defending battalions. In case of a general call to arms France could count on about 975,000 wheels and more than 5,000 motor vehicles.

The Bavarian Government is considering refunding expenses incurred by divisional surgeons for automobiling while on official duty, as it does at present for outlays for horses and traps, and has requested the chief doctors in the various districts to state their opinions on such a step.

The motor show arranged by the Society of German Cycle Traders in Hamburg has been fixed for October 3 to 12, and prom-

ises to outdo all others held till now in Germany. Of course the event in automobile shows will be next year's international gathering of vehicles of all kinds in Berlin, for which participation from abroad will be most heartily requested.

THE FRENCH ALCOHOL TESTS

PARIS, May 30. (Special Correspondence.)—On May 24, at the Gallery of Machines, in the Champs de Mars, the international alcohol exhibition opened most gloriously. The outlook was exceedingly pleasant, the stands presented a very neat appearance, while in the central part of the huge hall a special track had been arranged where all kinds of speed monsters, including one of Serpollet's Easter eggs, moved steadily around for the delectation of the visitors. Foremost amongst the latter was the Minister of Agriculture himself, who was very much interested by the explanation of Messieurs de Kuyff and Krebs relative of the new Panhard motor, known as the Centaurs, one of which is alleged to be equal to 50-h.p., but ranks nearer the 70 mark, while the other is only a 35-h.p. toy; the proportionate weight of the former: 4 kilos, 400 (9.68 lbs.), and the latter, 5 k. (11.66 lbs.), 300 to every horse power.

Alcohol, of course, was here at home, either as a source of locomotion, heat or light. It was a very elegant gathering. Amongst the notabilities present were Baron de Zuylen, Prince d'Arenberg, Journu Peugeot, Darracq, Krieger, Renault, Osmout.

All the Circuit vehicles were in evidence, with their fresh laurels hanging over them.

As was only to be expected, the speed event has quite put into the shade that very interesting—from a practical standpoint—part of the alcohol tournament, the consumption trial, which took place over the same course, somewhat shortened in distance, but extended over three days instead of two: Paris-Arras, 210 kil.; Arras-Abbeville, 260 kil.; Abbeville-Paris, 260 kil.; total 730 kilometers, or 453 miles.

The affair turned out a great success, most of the manufacturers having entered, and the result proved very satisfactory to those who have been contending all along that alcohol is not merely an efficient but a cheap and practicable fuel. That this is so was amply borne out by the facts and figures.

The first day's run of 130 miles was made by a Panhard weighing 2,844 lbs., with load, on 9 gallons of carburated alcohol, and the second day's run, over 161.5 miles, on 11.6 gallons. A Peugeot car weighing 980 lbs. ran the first day on 2.5 gallons, and a Krieger car, weighing 3,487 lbs., used only 7.84 gallons. A Darracq, weighing 1,872 lbs., used 5.5 gallons for the course of 130 miles.

Automobile hitching, or locking devices, have now made their appearance in New York. The hitching strap is a leather covered wire cable with a padlock.



CHICAGO CLUB NEWS

One Hundred Entries Expected for July 12th Endurance Run—Club Decides to Support New Automobile Regulations

CHICAGO, June 7, 1902. (Bureau Correspondence.)—The club run set for last Sunday, which was to have been over the route selected for the 100-mile endurance contest, was called off on account of rain. The date for the opening of the new clubhouse has again been postponed, this time until Saturday, June 14, when, without question, the handsome home of the Chicago Automobile Club will be thrown open for the inspection and entertainment of the members and invited guests. Practically every automobilist in the city of good repute will be asked to enjoy the hospitality of the members on the opening night, and the ladies will be on hand in large numbers. The arrangements are in the hands of the house committee, the members of which have spared no efforts to make the affair a memorable event.

To Support City Authorities

A meeting of the board of directors was held Friday to decide on what stand the club should take in regard to the new regulations for automobiles recently adopted by the city. These rules will be put in force on Monday, and the most surprising thing in this connection is an agreement which has been reached between the city and park authorities, whereby the city police will have power to arrest offenders on the boulevards and in the parks. Heretofore the park boards have been very jealous of their control of the parks and boulevards. It would appear to indicate that the authorities anticipate more than a usual amount of trouble. The directors of the club decided there was nothing objectionable in the new rules and that they would lend their support to the authorities in enforcing them, and any club member found guilty of causing trouble will be promptly disciplined.

Preparations for Endurance Run

Chairman Croninger, of the endurance run committee, is the busiest member of the club these days. He believes that the contest of July 12, which is the first of the kind to be held west of New York, will be a huge success and reflect credit on the club's management. Although but a few days have passed since blanks were sent out, there are now fully 25 entries, and Mr. Croninger expects that fully 100 will be received. There will be at least one electric machine in the run, which will make a change of batteries when Waukegan is reached.

The committee has all arrangements well in hand. The matter of co-operation by the

authorities of the different towns through which the course is laid has been taken care of, and at this writing letters promising cordial co-operation have been received from Winnetka, Kenilworth, Lake Forest and Glencoe. Meetings have been arranged, at which the rules which these towns will lay down for the government of the contestants while passing these points will be discussed, after which they will be printed and handed to the drivers for their guidance.

AUTOMOBILE CLUB OF OMAHA

As a result of the awakening of considerable interest in automobiling in Omaha, the Automobile Club of Omaha was recently formed, with a charter membership of 35. Additional names are being enrolled daily. The club has headquarters in Omaha, but embraces Omaha, South Omaha, Council Bluffs and contiguous territory. At the last meeting of the club officers were elected, as follows:

President, A. I. Root, Omaha; vice-president, J. T. Stewart, Council Bluffs; secretary, Dalton Risley, Omaha; treasurer, Dr. P. F. Straub, Fort Crook; directors, the foregoing officers and E. W. Lamoreaux, E. H. Packard, T. B. Lacey, H. H. Van Brunt, F. N. Connor; road officers, H. E. Fredricksen, captain, and A. K. Detweiler, Lieutenant.

Several club runs have been scheduled, among others a weekly run to Fort Crook, a distance of 14 miles each way.

MILWAUKEE CLUB FORMED

MILWAUKEE, WIS., June 5. (Special Correspondence.)—Milwaukee motorists formally organized at a meeting Monday night under the name of the Milwaukee Automobile Club. The following officers were elected for the ensuing year:

President, Dr. Ralph Elmergreen; vice-president, F. P. Rugee; secretary, C. G. Norton; treasurer, Frederick Pollworth; trustees, D. B. Wylie, R. G. Sayle and John Brennan.

The roster includes about 25 owners and operators of automobiles. Legislation and road improvement will be the main objects, while the pleasure side of automobiling will be an important feature. The members are already talking about the probability of possessing a clubhouse.

By-laws and constitution adopted at Monday night's meeting call for the appointment of committees on runs and races and other features that will be of interest to owners and others interested in motor-

ing. A committee on membership was appointed to visit owners and operators of vehicles and make them acquainted with the purposes of the club.

Those present at the meeting were: T. Jones, F. C. Courtney, H. E. Collins, E. C. Waite, J. H. Moss, J. L. Williamson, C. H. Lemon, I. O. Newell, J. N. Bock, W. H. Pipkorn, F. W. Upham, Walter Bush, Beyer, J. L. Kuntz, F. H. Strauss, James Merkel, William Merkel, Charles Chase, C. G. Norton, J. H. Smith, Fred Bredel, Dr. Ralph Elmergreen, Charles Haase, E. G. Warner, Johnson, John Brennan, Fred P. Rugee, E. H. Bottom, Frederick Pollworth, L. J. Dorsch, Charles R. Davis, F. C. Gillen, Dr. H. Cohn, Eugene H. Wuesthoff.

A COUNTRY CLUBHOUSE

The Massachusetts Automobile Club, at a meeting held May 31, unanimously voted to build a country clubhouse at Heard's Island, Wayland, 17 miles from Boston, in an ideal location on a State macadam road. The members pledged \$6,000 toward its construction, and work on it will begin at once. The plans as accepted call for a house that will contain on the lower floor a large dining room, a library and a smoking room, and on the upper floor ten bedrooms. The house is intended as much for the use of the wives and children of the club members as for the members themselves. The property on which it will stand includes 70 acres of land, on which there is an excellent golf links, while all around the island is good fishing. A boathouse will be built and furnished with boats and canoes.

A building committee was appointed as follows: Col. J. F. Souther, Elliot Lee, Dr. J. C. Steadman, J. C. Glidden and F. L. D. Rust.

Other business considered at the same meeting was the arrangement for a 100-mile endurance contest to take place in the near future.

SUCCESSFUL GOLDEN GATE RUN

SAN FRANCISCO, CAL., June 5. (Special Correspondence.)—The most successful run ever held by the Automobile Club of California was the 60-mile run from this city to Menlo Park and return last Sunday. Twenty vehicles followed the lead of E. H. Parish, who was captain of the run, E. P. Brinegar and R. J. Lennie acting as lieutenants.

Lieutenant Brinegar, who left the line at the 14-Mile House, went on ahead, and had the luncheon at the Menlo Park Hotel set out under the trees ready for the cavalcade when it arrived.

S. W. Merrihew has been appointed secretary of the American Motor League by President Edwin F. Brown to fill the vacancy caused by the resignation of Frank Egan.

Club Directory

The following list of clubs and club officers is as complete as it has been possible to make it from data that has been received. It is the intention to keep it revised regularly to date, and for this purpose the secretaries of those clubs not fully represented are invited to send in the full list of officers and their addresses. We shall also be pleased to receive reports of club elections.

AMERICAN AUTOMOBILE ASSOCIATION—PRES., Winthrop E. Scarritt, A. C. of A.; 1ST VICE PRES., F. C. Donald, Chicago A. C.; 2ND VICE PRES., Wm. Wallace Grant, Long Island A. C.; 64 S. Oxford St., Brooklyn, N. Y.; 3RD VICE PRES., Henry G. Morris, A. C. of Philadelphia, 405 Bourse Bldg., Philadelphia; SECY., S. M. Butler, A. C. of America, 753 Fifth Ave., N. Y. C.; TREAS., Jefferson Seligman, A. C. of America, Mills Bldg., N. Y. C.; DIRECTORS, F. G. Webb and A. R. Pardington, Long Island A. C.; A. R. Shattuck, A. C. of America; W. J. Stewart, New Jersey A. C.; F. C. Lewin, F. C. of Philadelphia; Dr. Chase, A. C. of Rhode Island.

AMERICAN MOTOR LEAGUE—PRES., Edwin F. Brown, Chicago; 1ST VICE PRES., Chas. E. Duryea, Reading, Pa.; 2ND VICE PRES., Willis Grant Murray, Detroit, Mich.; 3RD VICE PRES., S. Wallis Merrihew, New York; SECY., Frank A. Egan, New York; TREAS., Frederick B. Hill, Boston.

AUTOMOBILE CLUB OF AMERICA (753 Fifth Ave., New York)—PRES., Albert R. Shattuck, 11 Broadway, N. Y. C.; 1ST VICE PRES., Gen. Geo. Moore Smith, foot E. 26th St., N. Y. C.; 2ND VICE PRES., Edwin Gould, 195 Broadway, N. Y. C.; 3RD VICE PRES., Harry Payne Whitney, 2 W. 57th St., N. Y. C.; SECY., S. M. Butler, 753 Fifth Ave., N. Y. C.; TREAS., Jefferson Seligman, Mills Bldg., N. Y. C.

AUTOMOBILE CLUB OF BRIDGEPORT—PRES., Dr. C. C. Godfrey, Bridgeport, Conn.; VICE PRES., Arthur K. L. Watson; SECY., F. W. Bolande; TREAS., Jesse B. Cornwall.

AUTOMOBILE CLUB OF CALIFORNIA (415 Montgomery St., San Francisco)—PRES., F. A. Hyde, 415 Montgomery St., San Francisco, Cal.; VICE PRES., Dr. F. J. Tillman; SECY., A. C. Alken; TREAS., Byron Jackson.

AUTOMOBILE CLUB OF CINCINNATI—SECY., Rutherford H. Cox, 30 W. 7th St., Cincinnati, O.

AUTOMOBILE CLUB OF COLUMBUS—SECY., C. M. Chittenden, Broad St., Columbus, O.

AUTOMOBILE CLUB OF ILLINOIS—SECY., M. Scott, 1251 Marquette Bldg., Chicago, Ill.

AUTOMOBILE CLUB OF INDIANA—PRES., Frederick M. Ayres, Indianapolis; VICE PRES., Silas Baldwin, Indianapolis; SECY.—TREAS., A. J. McKim, Indianapolis; EXECUTIVE COMMITTEE, Dr. Henry Jameson, Dr. E. F. Hodges, George Pangborn and Henry Severin.

AUTOMOBILE CLUB OF MAINE—PRES., Maynard D. Hanson, 12 Monument Sq., Portland, Me.; VICE PRES., C. H. Simmonds, Portland, Me.; SECY., Henry M. Jones, 29 Pearl St., Portland, Me.; TREAS., Samuel S. Boyden, Union Mutual Bldg., Portland, Me.

AUTOMOBILE CLUB OF MARYLAND—PRES., W. Keyser, Jr., 1109 N. Calvert St., Baltimore, Md.; VICE PRES., Wm. S. Belding, 1127 N. Calvert St., Baltimore, Md.; SECY., C. Warner Storek, Altamont Hotel, Baltimore, Md.; TREAS., William Knabe, The Mt. Royal, Baltimore, Md.

AUTOMOBILE CLUB OF NEW ENGLAND—SECY., Geo. S. McQuesten, Brookline, Mass.

AUTOMOBILE CLUB OF NEW JERSEY—PRES., Winthrop E. Scarritt, East Orange, N. J.; VICE PRES. AND SECY., W. J. Stewart, 8 Central Ave., Newark, N. J.; TREAS., Harlan W. Whipple, East Orange, N. J.

AUTOMOBILE CLUB OF OMAHA—PRES., A. I. Root, Omaha; VICE PRES., J. T. Stewart, Council Bluffs; SECY., Dalton Rieley, Omaha; TREAS., Dr. B. F. Straub, Fort Crook.

AUTOMOBILE CLUB OF PHILADELPHIA (250 N. Broad St., Philadelphia, Pa.)—PRES., Henry G. Morris, 405 Bourse Bldg., Phila.; 1ST VICE PRES., Herbert Lloyd, 19th and Allegheny Ave., Phila.; 2ND VICE PRES., Pedro G. Salom, 405 Bourse Bldg., Phila.; 3RD VICE PRES., J. Horace Hard-

ing, 122 S. 4th St., Phila.; SECY.—TREAS., Frank C. Lewin, 250 N. Broad St., Phila.

AUTOMOBILE CLUB OF ROCHESTER—SECY., Frederick Sager, 50 W. Main St., Rochester, N. Y.

AUTOMOBILE CLUB OF SYRACUSE—PRES., T. D. Wilkin, 4 Wieting Block, Syracuse, N. Y.; VICE PRES., Dr. Gregory Doyle, 307 W. Genesee St., Syracuse, N. Y.; SECY.—TREAS., F. H. Elliott, 515 S. A. & K. Bldg., Syracuse, N. Y.

AUTOMOBILE CLUB OF UTICA—PRES., C. S. Mott, Utica, N. Y.; VICE PRES., A. J. Seaton, Utica, N. Y.; SECY., James S. Holmes, Jr., Huron Bldg., Utica, N. Y.; TREAS., Samuel Campbell, Utica, N. Y.

BERKSHIRE AUTOMOBILE CLUB (Cottage Row, Pittsfield, Mass.)—PRES., Dr. O. S. Roberts, Pittsfield, Mass.; VICE PRES., Dr. Frank W. Brandow, 86 North St., Pittsfield, Mass.; SECY., L. A. Merchant; TREAS., Judge Edward T. Slocum.

BLOOMSBURG AUTOMOBILE CLUB—SECY., C. W. Funston, Bloomsburg, Pa.

BROCKTON AUTOMOBILE CLUB—PRES., Dr. F. E. Constans, Times Bldg., Brockton, Mass.; VICE PRES., W. H. Marble, Brockton, Mass.; SECY., Harry T. Keith, Campello, Brockton, Mass.; TREAS., H. P. Morton, Brockton, Mass.

BUFFALO AUTOMOBILE CLUB—PRES., Dr. Lee H. Smith; VICE PRES., George S. Metcalfe; SECY., Dr. V. Mott Pierce, 663 Main St., Buffalo, N. Y.; TREAS., John Satterfield.

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PENNSYLVANIA AUTOMOBILE CLUB—SECY., Henry J. Johnson, 138 N. Broad St., Philadelphia, Pa.

PRINCETON UNIVERSITY AUTOMOBILE CLUB—PRES., P. Adamson; SECY., Chas. H. Dugro.

RHODE ISLAND AUTOMOBILE CLUB (P. O. Box 1314, Providence, R. I.)—PRES., J. S. Chase, M. D., R. I.; 1ST VICE PRES., H. A. DuVillard; 2ND VICE PRES., James E. Blake; SECY., H. H. Rice; ASSIST. SECY., B. F. Clark; TREAS., R. Lincoln Lippitt; CON. ENG., J. P. Wanton.

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ST. LOUIS AUTOMOBILE CLUB—SECY., John Ring, St. Louis, Mo.

TROY AUTOMOBILE CLUB—SECY., J. S. Thiel, Troy, N. Y.

WORCESTER AUTOMOBILE CLUB—PRES., J. W. Bigelow, Worcester, Mass.; VICE PRES., Edwin Brown, Worcester, Mass.; SECY., H. E. Shiland, Worcester, Mass.; TREAS., B. A. Robinson, Worcester, Mass.

Recorder Goff, of the Court of General Sessions in New York City, on May 12 handed down the decision that in his opinion the city magistrates have not the power to impose fines on automobilists and chauffeurs who are accused of violating the law with regard to speed. The decision was written in the case of August Patterson, who was arrested charged with having run his motor vehicle at a speed of twelve miles an hour. In the Harlem Police Court he was fined \$50 by Magistrate Mott. Appeal was taken from Magistrate Mott's decision, and the result was Recorder Goff's decision.

On the 1st of May the long-heralded automobile service in the province of Gironde, France, was inaugurated. The mail is transported by three motor cycles attached to carriers painted in blue and gold. The motor cycles are single-cylinder machines of 2-h.p., and are expected to cover a radius of about 50 miles in a day, carrying about 100 kilos weight of letters. The contractor who has secured the right to furnish these vehicles for a term of six years is M. Jiel-Laval, of Bordeaux.

Up-to-date Cleveland burglars are using motor vehicles in their work. A few evenings ago the residence of a prominent citizen on the outskirts of the city was entered and the next morning curtains, rugs, clothing and other valuables were missing. The motorists were seen to leave the house with their booty, but no one thought anything about the matter, as it was supposed some members of the family had driven to the house to look after repairs.



METROPOLITAN MELANGE

Disqualification Provided by the American Automobile Association for Competition in Unsanctioned Race Meets

The officers of the so-called National Automobile Racing Association, which is promoting a race meet at Brighton Beach for June 21, assert that they will run the meet despite the refusal of the American Automobile Association to grant a license to the organization and the action of the A. A. A. at its meeting on Tuesday afternoon in passing a ruling that no sanction for a race meet would be granted to unlicensed associations or individuals. The officers of the N. A. R. A. assert that arrangements have gone so far that to call the meet off would entail a financial loss and inconvenience a number of operators who had arranged to enter. The management of the Brighton Beach track said last week that, although a contract with the promoters of the meet for the use of the track for the occasion had been drawn up, it had not been signed. The Long Island A. C. and the A. C. of America, as well as the American Automobile Association, are opposed to the holding of races by unknown and possibly irresponsible persons, and it is averred that the promoters will have considerable trouble before they open the doors of Brighton Beach track for a meet on June 21.

S. M. Butler, secretary of the Automobile Club of America, has sent out a notice calling attention to the fact that by the rulings of the A. A. A. club members and non-members alike who race in an unsanctioned meet will be disqualified for entry in sanctioned meets by licensed organizations held under the rules of the American Automobile Association. He also calls attention to the fact that the promoters above referred to have advertised under the name of "The National Automobile Racing Association," which is the name of the organization formed more than a year ago by W. K. Vanderbilt, Jr., and his associates at Newport, under the auspices of which association a licensed race meeting was held at Newport in August, 1901. It should be clearly distinguished that the present promoters have no connection whatever with the original National Automobile Racing Association.

The racing committee of the American Automobile Association last Friday promulgated a ruling that "members of the American Automobile Association who race or allow their cars to be raced at a meeting not licensed by the American Automobile Association thereby render themselves liable to disqualification and ineligibility to enter

licensed meetings under the American Automobile Association rules."

Proposed Endurance Runs

It is expected the governors of the Automobile Club of America will in a few days determine upon the date of the endurance contest to Boston and return, to be held next fall. An effort will be made to avoid the equinoctial season.

Chicago automobilists have offered the suggestion that the Automobile Club of America join with the Chicago Automobile Club in promoting a 1,000-mile endurance contest from New York City to Chicago. The course would embrace all sorts of American roads and would certainly test thoroughly the most substantially constructed and best vehicles made.

Wants Automobiles Licensed

The executive committee of the Committee of Fifty, which is organized for the purpose of opposing the increase in the legal rate of speed of vehicles in the congested streets of New York, met last Thursday evening for the purpose of considering the amendment of Alderman Parsons to the Oatman bill, now pending before the board of aldermen, and which fixes the speed of vehicles at 10 miles per hour. The Parsons amendment reduces the maximum speed to 8 miles an hour. The committee adopted a number of resolutions, the most important of which referred to automobiling. That resolution, which was sent to the board of aldermen for consideration, is as follows:

Resolved, That it is the sense of this committee that no person should be permitted to operate an automobile within the City of New York which has not been registered and for the operation of which a license has not been issued. That provision should be made for the issuing of licenses to owners of automobiles, and that every automobile should be required to display in some conspicuous place its license number, the figures of which number shall be of solid block type, in large legible figures, and shall either be clearly painted on the back of the automobile itself or on a tablet affixed to such back, and that a penalty of not more than \$50 be imposed for the violation of the ordinance.

Road Users Demand Improvement

Delegates from bodies of automobilists, drivers and truckmen and bicyclists in New York City had a hearing before President Cantor, of the Borough of Manhattan, at the City Hall on Thursday and urged the repaving of Seventh Ave., with bituminous asphalt and the better maintenance of St. Nicholas Ave., both being main thoroughfares extending northward into the Bronx from the upper part of the city. The automobilists were represented by President Shattuck, of the Automobile Club of America, and Secretary Harry Unwin, of the National Association of Automobile Manufacturers; the bicyclists by Dr. E. V. Brendon, president of the Goods Roads Club;

Alderman Oatman, president of the Associated Cycling Clubs of New York; George C. Wheeler, of the Associated Cycling Clubs and city surveyor; and the horsemen by John F. Cockerill and David Lamar, of the Road Drivers' Association; Gilbert Ray Hawes, of the Truckmen's Association, and Alderman Mathews, of the law committee. A committee of these bodies recently visited Boston, Pawtucket, Brockton, Campello and Cambridge and reported favorably upon bituminous pavement as used in those cities. A committee of the Road Drivers' Association also investigated and pronounced in its favor. President Cantor promised that Seventh Ave. would be repaved at an expense of \$270,000, probably with bituminous asphalt, and that St. Nicholas Ave. would be efficiently cared for.

A committee of delegates from the foregoing bodies will meet on Wednesday night of this week and formally organize a body to embrace all who use the highways for vehicular traffic. It will probably be called the Associated Road Users of America, and a constitution and by-laws will be adopted.

The sensational story that W. K. Vanderbilt, Jr., has been balked in his plans to build an automobile race course around Lake Success, on Long Island, by a woman, is declared to be without foundation, as the tract of several hundred acres had been bought by a firm of New York real estate brokers for an individual who contemplates a residence on it.

MASSACHUSETTS AUTOMOBILE LAW

Following is the text of the new law just enacted by the Massachusetts Legislature for the control of motor vehicles on the public highways:

Be it enacted as follows:

Section 1. No automobile or other motor vehicle shall be run on any public highway outside the limits of a city, fire district or thickly settled or business part of a town at a speed exceeding 15 miles an hour, and no such vehicle shall be run on any public way within the limits of a city, fire district, or of any thickly settled or business part of a town at a speed exceeding 10 miles an hour.

Section 2. Every person having control or charge of a motor vehicle or automobile shall, whenever upon any public street or way and approaching any vehicle drawn by a horse or horses, or any horse upon which any person is riding, operate, manage and control such motor vehicle or automobile in such manner as to exercise every reasonable precaution to prevent the frightening of any such horse or horses, and to insure the safety and protection of any person riding or driving the same. And if such horse or horses appear frightened the person in control of such motor vehicle shall reduce its speed, and if requested by signal or otherwise by the driver of such horse or horses shall not proceed farther toward such animal unless such movement be necessary to avoid accident or injury, or until such animal appears to be under the control of its rider or driver.

Section 3. Upon approaching a crossing of intersecting ways, and also in traversing the crossing or intersection, the person in control of a motor vehicle shall run it at a rate of speed less than that above specified, and not greater than is reasonable and

proper, having regard to the traffic and the use of the intersecting ways.

Section 4. The term "motor vehicle" in this act shall include all vehicles propelled by any power other than muscular power, excepting railroad and railway cars and motor vehicles running only upon rails or tracks.

Section 5. Any person violating any provision of this act shall be punished for each offense by a fine not exceeding two hundred dollars, or by imprisonment for a term not exceeding ten days, or by both such fine and imprisonment.

Section 6. This act shall take effect upon its passage.

FORTHCOMING COAST NEWS

SAN FRANCISCO, CAL., May 28. (Special Correspondence.)—No run west of Chicago has ever been so elaborately planned as the next annual run from this city to Menlo Park and the Leland Stanford University, to be given by the Automobile Club of California on June 8. The distance of 64 miles for the round trip also greatly exceeds anything of the kind ever undertaken here before. As a number of large carriages which have recently arrived on the coast will be in line, with full seating capacity occupied, it has been found necessary to arrange for 150 people at Menlo, where lunch will be served in the open air at noon.

George A. Pope, Miss Sara Drum, E. B. Murphy, Lawrence J. Scott, R. P. Schwerin and Edward Tobin, locally prominent society automobile enthusiasts, are named as competitors to feature the contest for blue ribbon trophies in an automobile obstacle steering event which is to form part of the programme at the two days' horse show to be held under the auspices of the Burlingame Country Club in the near future.

A new record was set last week for the run between Oakland and San Jose when Courtney Ford, in his new Winton car, negotiated the 47 miles in 1 hour 40 minutes.

LIMA ALCOHOL EXHIBITION

The progress which alcohol is making in the industrial arts is indicated by the announcement that an international exposition of appliances of alcohol is to be held in Lima, Peru, from November 1 to 30, 1902. The exhibitions will be divided into five classes, as follows: Motive power, heating apparatus, lighting, methods of neutralizing or methylating alcohol and processes of carburizing alcohol, and utensils and apparatus not comprised in the other classes and which use alcohol in some form. The motive power class embraces stationary motors for general use, special motors for agriculture, marine motors, motor cars and locomotives, locomotors and carburizers.

A HOT RACE PROMISED

There is on exhibition in the show window of the Winton store, in Chicago, a very handsome silver trophy, which is to be awarded to either Frank X. Mudd or J. B. Burdette, who are at present joint owners of the cup. This cup stands 16 ins. in height, is beautifully chased and is to be

contested for in three 5-mile races, to be held on the Joliet race course about July 17.

Mr. Mudd recently purchased a Winton touring car, and Mr. Burdette will have delivered to him in the course of a few days one of the new touring cars of the St. Louis Motor Carriage Co. Both gentlemen have heretofore used steam carriages, and have indulged in considerable good-natured chaffing as to what they would do to each other when they received their new machines. The result of all this has been an agreement to race three 5-mile heats at Joliet, Ill. The cup is value at \$250. Both men will be new to their machines, and the contest will no doubt be exciting. It has been suggested that other contests may be arranged for the same day, but nothing has yet been done in this direction.

HELD FOR MANSLAUGHTER

Henry L. Blum and his brother, Frederick Blum, proprietors of the Alexander Dye Works, at Lodi, N. J., and their chauffeur, William Anderson, were held responsible for the death of Richard Hennes, at Hackensack, N. J., on May 22, by the coroner's jury, at the inquest on June 3. Bail was fixed at \$4,000 in each case. Hennes' death resulted from injuries due to the running away of a horse hitched to a lawn mower upon the sudden passage of the Blum brothers' automobile at a high rate of speed. The jury recommended that the speed limit for automobiles be reduced by ordinance from 12 to 7 miles.

JULY 4TH RACES AT PITTSBURG

At a meeting held last Saturday in Pittsburgh it was decided to hold automobile races in connection with the President's meet on July 4th at Schenley Park. Entry blanks for automobile, bicycle and athletic events will be ready for distribution this week. It was decided to run two open automobile races in addition to a speed exhibition, one for steam carriages and the other for gasoline vehicles of more than 16 h.p.

DAMAGES FOR DEFECTIVE PAVEMENT

George Lavigne has brought suit against the city of New Haven, Conn., for damages alleged to have been sustained because of a defective street. The plaintiff claims that on May 20 last his motor vehicle had one of its wheels caught in an unprotected excavation 4 ft. long and 7 in. wide on Chapel st. This deranged the steering apparatus and the vehicle ran into a tree, and Lavigne claims to have been badly injured.

TRADE BREVITIES

Steel springs of all kinds and sizes and for all sorts of purposes are shown and described in a 78-page catalogue which the American Steel & Wire Co. is distributing. This book, which is known as Catalogue No. 5, shows compression, extension, torsion and flat springs, among them being valve and pop-valve springs, regulator

springs, heavy and coil springs, in flat and round wire, etc. These are made in the Worcester (Mass.), Waukegan (Ill.) and San Francisco (Cal.) factories of the company.

The International A. & V. Tire Co., of Upper Newton Falls, Mass., has arranged, for the convenience of the trade of New York City and its vicinity, to carry stocks of tires for immediate delivery at the following locations: The International A. & V. Tire Co., 346 Broadway; Broadway Bicycle and Sundry Mfg. Co., 7 Warren St.; the Cortlandt Cycle & Supply Co., 9 Cortlandt St., and the Bowman Automobile Co., 50 West Forty-third St. These stocks will consist of a complete assortment of the Fox brand pneumatic and Endurance carriage and automobile tires, either two-wire or tape pattern solid rubber, cushion, sulky, motor bicycle, motor tandem and bicycle tires.

The India Rubber Co., of Akron, Ohio, is distributing a new catalogue, designated Series H, No. 20, which shows its Wheeler endless solid tires in perspective and cross sections, assembled on wheels and in groups that include tires, wheels, flange rings, bolts and tools for applying the tires. Other photographic views show the India Wheeler tire fitted to a police patrol wagon, an aerial fire department truck, a combination hose wagon and chemical engine water tower, the Chicago auto-coach and an electric van. Twenty-two different sizes and diameters are kept regularly in stock.

The American Darracq Automobile Co., 652 Hudson St., New York, has, during the last four months, imported more than 100 Darracq machines, and F. A. La Roche, the company's general sales agent, reports that hereafter the importations will be 12 cars a week instead of 6. The French company, he says, has promised to favor its American representative in the matter of deliveries because it handles the Darracq machines exclusively.

Miller Bros., of Amesbury, Mass., have completed an automobile, and made a successful trial trip on May 16. Everything about the vehicle is said to be original save the rear axle gearing. The body was built from a special design. The motor is supported on the gearing and is entirely separate from the body of the carriage. It weighs 284 lbs., and is the invention of a Bostonian named Spliller. It is of the double-cylinder type and of 8-h.p. It is not improbable that a company will be formed in Amesbury for the manufacture of the carriages.

The interest in automobiles on the part of people in remote countries is evidenced by the correspondence of the Elmore Mfg. Co., of Clyde, Ohio, which, in the past two weeks, have received inquiries for cata-

logues and prices on automobiles from Johannesburg and Pretoria, Transvaal; Adelaide, Australia; Bangkok, Siam; Christiania, Sweden; Toquayabom, Cuba, and other places that would seem poor markets for motor vehicles.

Among recent sales by the Vehicle Equipment Co., of Brooklyn, N. Y., is a 5-ton electric truck to the Gumar Roofing Co., a 3-ton truck to Hammacher, Schlummer & Co. and a 5-ton truck to the Smedley Co., of New Haven. The demand for heavy electric vehicles is increasing, say manufacturers; business houses that have used them for a year or longer, now being satisfied of their reliability, are doubling their preliminary orders.

It is reported that Eastern capitalists have offered to locate an automobile factory at New Concord, Ohio, upon condition that the town give a bonus of \$15,000 and five acres of land. The matter was put into the hands of the New Concord Land & Improvement Co., which has made arrangements to secure the cash and the land desired. It is said that the factory will employ about 150 people, of which half will be skilled workmen.

The Hartford Electric Light Co. has bought from the Electric Vehicle Co. an electric supply wagon similar to the one used by the Metropolitan Railway Co., of Elizabethport, N. J. It is equipped with brass railings, mud guards over the rear wheels, rear step, lanterns and gong. The wagon weighs over 6,000 pounds and will travel 30 miles on one charge. Its maximum speed is 12 miles.

The New Bedford Mfg. Co. has been recently organized in New Bedford for the purpose of manufacturing automobiles and motor bicycles. It has officers as follows: President, Dr. J. V. Thuot; vice-president Geo. W. Cary; treasurer, U. E. Collette, and secretary, J. B. Gregoire. The company has secured a location at 105 Bowditch St., New Bedford, Mass. It has just completed two automobiles.

Henry Ford, of the Ford Automobile Co., of Detroit, and Tom Cooper, the ex-champion bicyclist, were in New York during the endurance run and speed trials, looking for ideas in racing machines. Mr. Ford is now building a gasoline racing machine for himself and another for Cooper, that are expected to be ready within a month.

The U. S. Long Distance Automobile Co. declared a dividend of 7 per cent. last Thursday on \$400,000 preferred stock on its first year's operation. The surplus above the dividend will be put into a building fund for a new factory, the construction of which is to be started at once. It will have a capacity of 22 vehicles a week, it is said.

The International Motor Car Co., of Toledo, is building a special Toledo steamer for Miss Lillian M. Adams, secretary of the

Houston Automobile Club, of Houston, Tex., who is probably the only woman in the United States who conducts an automobile agency. Concerning the new vehicle, the company wrote recently: "We intend to give you a carriage superior to any that has ever been seen out of this factory." Miss Adams is, therefore, anxiously awaiting its arrival.

A large number of new motor vehicles of out-of-town make have been delivered to purchasers in Buffalo within the past fortnight. These are the higher priced machines and were bought direct from the makers. Despite this fact, the retail dealers report a brisk demand for all of the various types handled by them, with good prospects for a continuation of the demand.

The American Brass Co., of Waterbury, Conn., has absorbed the Mannesman Tube Co., whose plant is located near North Adams, Mass. The Mannesman machinery has been transferred to Waterbury, and will probably be installed in the tube mill of the Benedict & Burnham Mfg. Co. It includes 16 Mannesman machines, said to be worth about \$80,000.

Albert C. Bostwick and Bradford B. McGregor, enthusiastic members of the Automobile Club of America, who recently formed a company for the manufacture of a number of automobiles of their own design, to be disposed of among friends, have brought out the first machine, and it is reported to be giving satisfaction. The company now has twenty-five similar machines in course of construction, each of which will be of about 20-h.p. They will be of the four-cylinder type. The trial carriage now in use is of 12-h.p., with two cylinders, and was used primarily to demonstrate the good points of the carriage.

H. B. Shattuck & Son, of Boston, have just leased the entire first floor of the old New England Electric Vehicle Co.'s quarters, on Tremont St., corner of Clarendon. They will have facilities for storing 300 vehicles and a well-lighted repair shop. They will continue their salesroom at 239 Columbus Ave., and maintain the above quarters for storage and repairs only.

W. P. Rainey, president of the Oldsmobile Co., of New York, asked the police on Tuesday night to assist him in locating his \$8,000 automobile that had disappeared between 6 and 8 p. m. from the station at 138 W. 38th St., simultaneously with his chauffeur, Harry Hill. Word was sent all over New York and to Philadelphia and Boston. Mr. Hill, who is a well-known chauffeur, was employed by Mr. Rainey about three weeks ago.

The retired residents and business men who spend the summer months at country places near Buffalo, and suburbanites also, are taking to the motor vehicle as a means of travel between their homes and offices. A number of machines are now being used

for this purpose in preference to the railways.

It is said by those who are well posted that Buffalo is the first city, proportionately, in the matter of private ownership of motor vehicles. It is estimated that more than 200 are now owned by private individuals. The members of the Buffalo Automobile Club are desirous of learning just how many machines are owned in the city, and it proposes to take a census of the city and later have a grand turnout of all vehicles in the city.

Mrs. Bridget Fennesy, of Providence, R. I., has brought suit against Charles J. Davoll for \$5,000 damages, claiming that on March 31 last, an automobile owned by Mr. Davoll ran against her carriage, throwing her out and causing her painful injuries and a severe nervous shock. Her husband also sues for \$5,000 damages for the loss of his wife's services as a result of the accident.

A. L. Dyke, manufacturer and jobber of automobile parts, 1402 Pine St., St. Louis, Mo., has just issued a 50-page catalogue of parts for gasoline and steam vehicles. This is one of the most complete catalogues of the kind ever issued and includes all necessary parts, from spokes to motors and bodies, and also fittings of all kinds, and automobile clothing, caps, gauntlets and goggles.

George Cannon, of the Harvard Automobile Club, is reported to have gone 5 miles on Charles River Park track in 8m. 26.3-5s., breaking the record of 9:09.3-5 for a circular track. He used a steam racing machine, fitted with a Mason engine, and went through the test without a hitch.

A. J. Wright, representing the Chicago Motor Vehicle Co., appeared before the city council of Beatrice, Neb., on May 13 and made a proposition for running a line of automobile coaches. He asked for a 10-year franchise and the right to operate the vehicles on the old car tracks. The mayor is authority for the statement that the franchise would be granted provided the company pays the city 1 per cent. of its gross earnings.

Motor and automobile forgings are well illustrated and the dimensions of their several sizes are given in a new catalogue of 48 pages now being distributed by the Streby & Foote Co., makers of drop forgings, in Newark, N. J. Among the designs shown are several styles of body, brake and spring steps, numerous designs of step pads, various steering knuckles and yokes, body hangers, parts for steam and gasoline engines and several sorts of clips.

William Mason Turner, of the automobile department of John Wanamaker's, will go to Newport on the 16th inst., with a full line of Baker electric runabouts and a line of motorcycles.

Padelford & Bell, who recently opened a storage and repair station at 250 West 80th St., New York, have gone to unusual trouble and expense in the equipment of their place. The station's good location and the well-conducted machine shop, together with the ample storage facilities, has already attracted a liberal share of patronage. The firm holds the agency for the Electric Vehicle Co.'s Columbia carriages, and also that for the Chicago-made Fanning electric carriages.

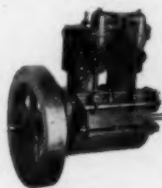
George Henry Knight, writing to the *New York Times*, suggests as probably the most effective and satisfactory way of correcting the tendency to violation of city speed ordinances that each vehicle have placed conspicuously upon it a recorded number and a speed indicator properly illuminated in the night time; that a penalty be imposed for inaccurate speed indication, and that every main thoroughfare be equipped with a police signal system.

Parker C. Choate, of Essex, Mass., has designed a motor vehicle, with an engine attached to the rear axle, and which is free from cranks, eccentrics, chains, gears or any kind of sliding friction. He has formed the Essex Corporation for the purpose of building the machines, and has already secured considerable backing in Essex.

Multiple spindle drills, milling machines, crank and belt shapers, planer vices, pipe cutters, punch presses and arbor presses are illustrated and described in Catalogue No. 22 of the machine tool department of the Fox Machine Co., of Grand Rapids, Mich.

HOFFMAN MOTORS

The H. L. Hoffman Motor Co., of Plainfield, Ill., has removed to Joliet; better facilities for the manufacture and shipping of the motors which it makes have become necessary. Its line of motors consists of a special



motor for bicycles and tandems, a larger single-cylinder motor for stationary work and for automobiles and launches, and a double-cylinder motor for both marine and automobile purposes, that may be mounted either horizontally or vertically. All are of the four-cycle type and of extremely simple design, the two-cylinder model having but one carburetor, one coil, and one spark shifter. The compression is high and the motors show an unusual efficiency for the size of cylinders. The neatness and compactness of the motor is shown in the illustration. The two-cylinder model has been adopted by the Van Fleet Mfg. Co., of Joliet, which makes special machinery, but will shortly put a complete automobile on the market.

The Morgan Motor Co. has moved into larger quarters at 114 Front street, Brooklyn, N. Y.

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BALL AND PEDAL FACTORY
Cleveland - - - Ohio

A handsome catalogue of automatic tenoning machinery, such as it is used in making wood wheels, is issued by the H. B. Smith Machine Co., of Smithville, N. J.

A leaflet comes from the Crank Pin Machine Co., 135 Broadway, New York, illustrating the different styles of their machines for rapidly turning crank pins forged solid with the shafts. These machines are used by the Automobile Co. of America and others.

The firm of Shaeffer, Bunce & Marvin, of Lockport, N. Y., manufacturers of running gears and automobile steam engines, has lately been reorganized under the name of Schaeffer, Bunce & Co.

F. W. Stockbridge, of Paterson, N. J., has the agency of the Locomobile, Oldsmobile and Darracq for the counties of Passaic and Bergen.

The Smith Co., Topeka, Kan., contemplates the erection of a factory for the manufacture of steam automobiles.

An agency for the Knickerbocker gasoline automobile has been opened by C. J. Field, 652 Hudson street, New York City.

The Conrad Motor Carriage Co., of Buffalo, has placed its Pittsburg agency with the Pennsylvania Electrical & Railway Supply Co., Third and Penn. aves., where a full line of its carriages are on exhibition.

The Merchants' Vehicle Storage Co., 148 West 18th St., New York, has made arrangements to carry in stock a line of oxide and chloride vehicle storage batteries and parts, made by the Electric Storage Battery Co., of Philadelphia. The company has facilities for storing and charging electric automobiles,

and also does general repair work on vehicles of this type.

The new addition to the plant of the Knox Automobile Co., in Springfield, Mass., is completed to the rafters, and will be ready for occupancy in about a week. A good demand is reported for the Knoxmobiles, many advance orders being on the books.

Cavanaugh & Darley, Canal and Randolph Sts., Chicago, Ill., are in a position to handle all sorts of supplies, having a complete line of power-transmitting devices, air compressors, power pumps and jacks, together with engines operating on gas, gasoline, kerosene, distillate, naphtha and natural gas. They are desirous of interesting parties in need of marine, automobile or bicycle motors.

Frederick M. Hotchkiss, one of the best known chauffeurs in Connecticut, has opened an automobile repair station at 121 South Colony St., Meriden, where he will also sell different makes of vehicles. He will have a charging station for electric vehicles.

The Cleveland Pneumatic Tool Co., of Cleveland, Ohio, has appointed the Compressed Air Machinery Co., of San Francisco, Cal., its Pacific Coast representative.

Albert Schock, of six-day bicycle fame, has opened an automobile station at 68 Montague street, Brooklyn, on the route taken by Brooklyn automobilists to the Wall street ferry, and is stabling quite a number of machines for prominent financial men.

The New York agency for the Gasmobiles has been placed with the New York Automobile Exchange, 114 Fifth avenue. Walter H. Stearns is the manager of the station, which is also the agent for Darracq and Geneva automobiles.

AMERICAN DARRACQ AUTOMOBILE COMPANY

CHAS. D. COOKE, Secretary-Treasurer and General Manager.
F. A. LaRoche, Sole Sales Manager

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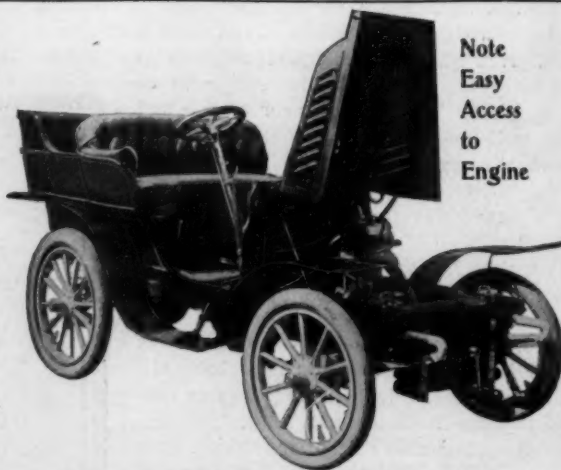
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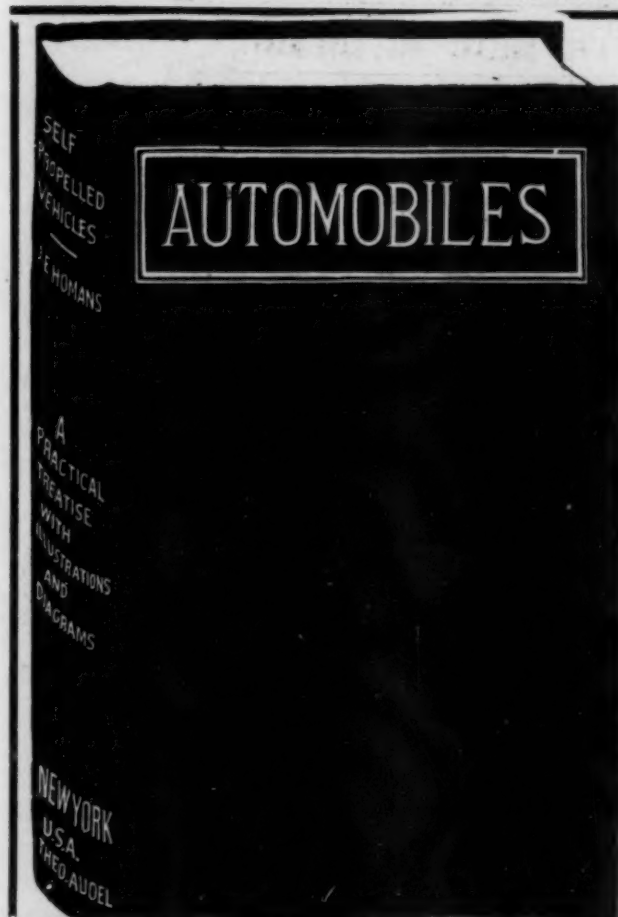
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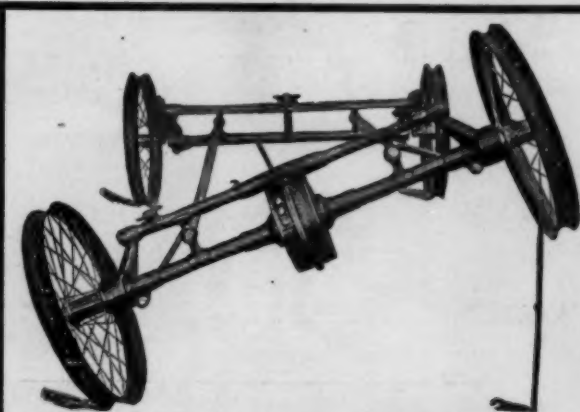


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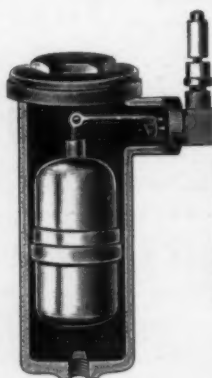
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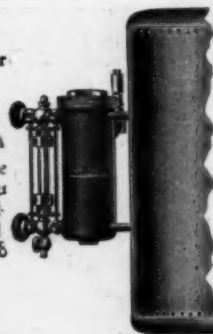
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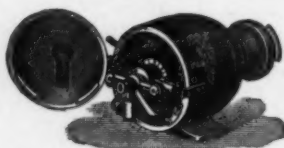
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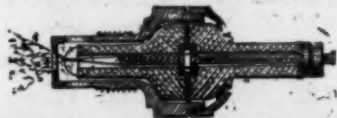
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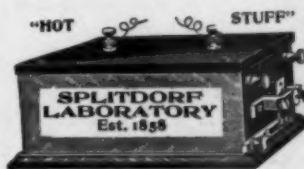
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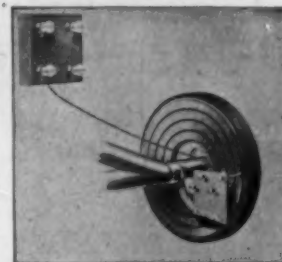
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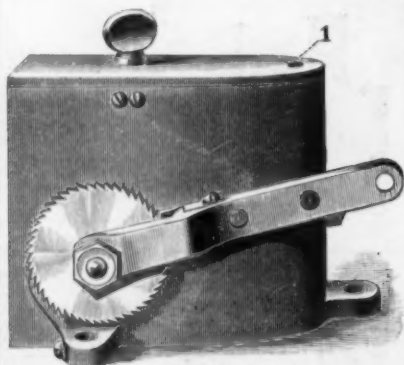
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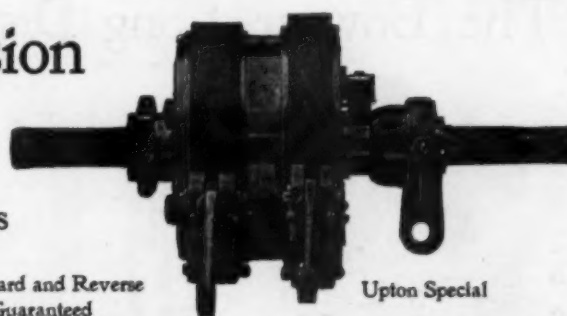
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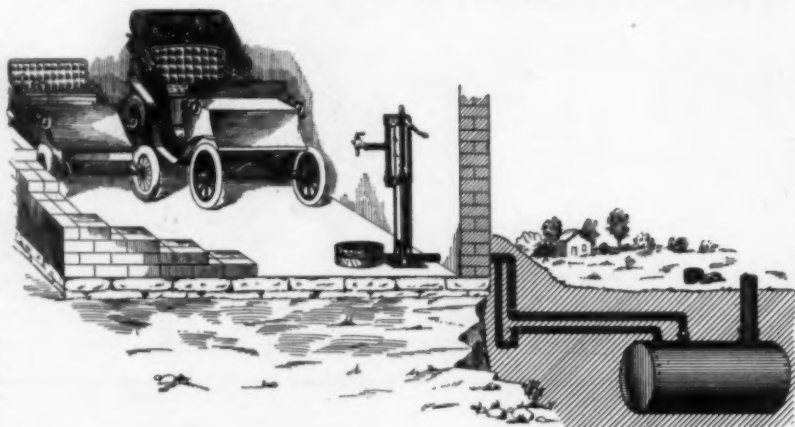
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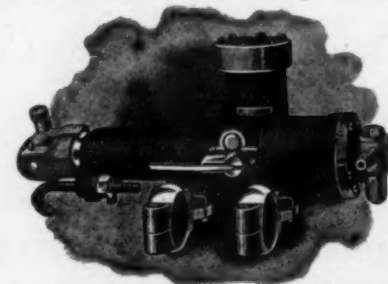
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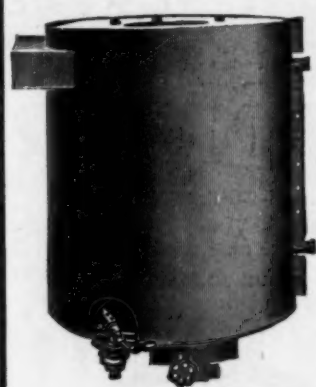
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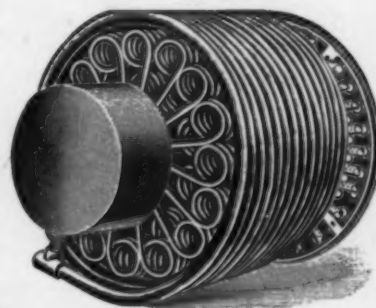
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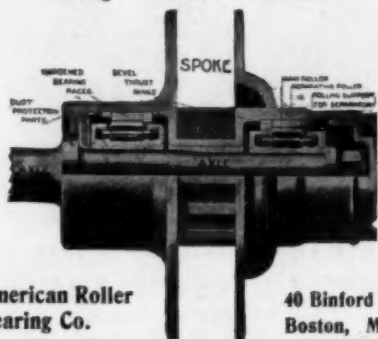
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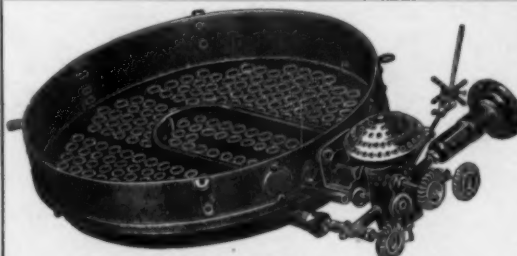
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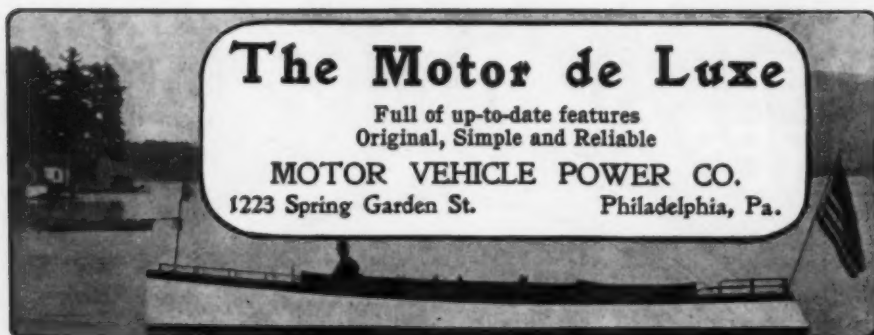
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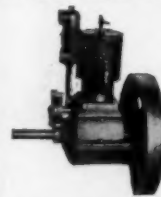
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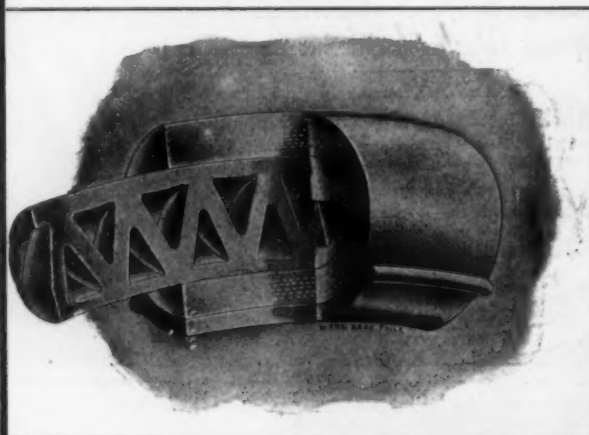


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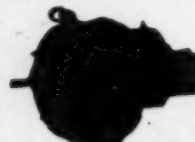


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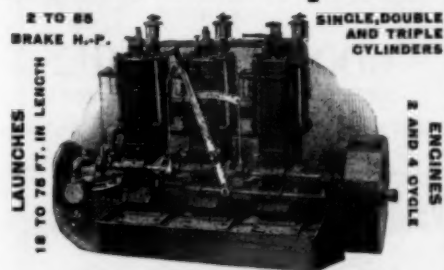
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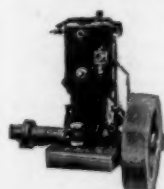
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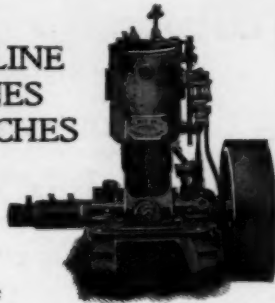


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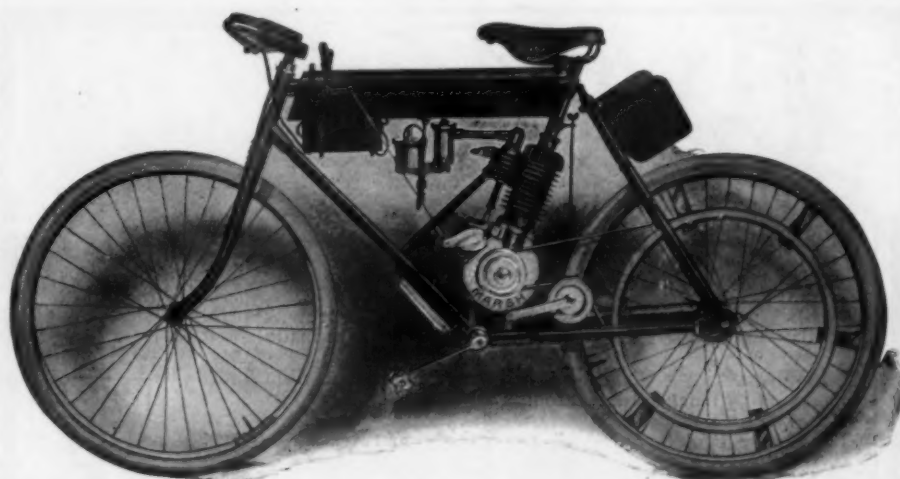
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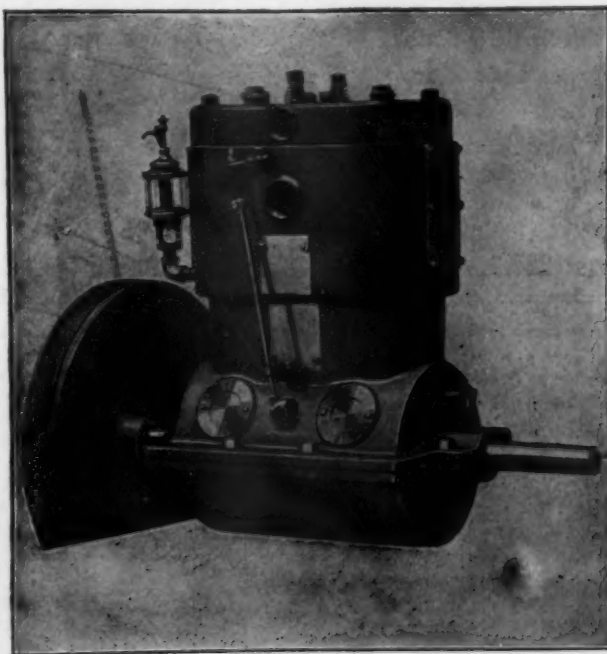
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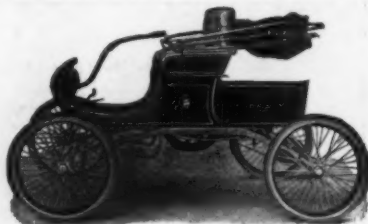
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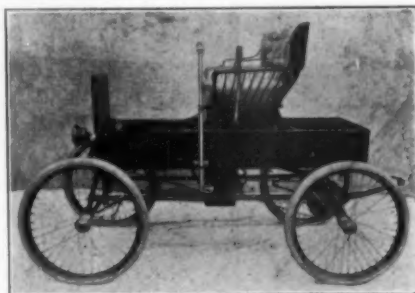
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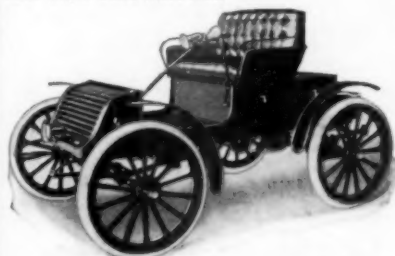
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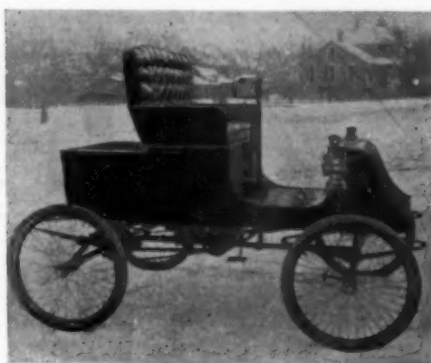
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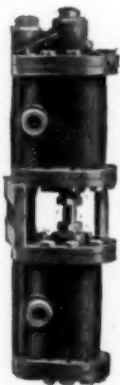
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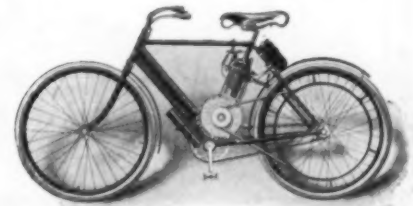
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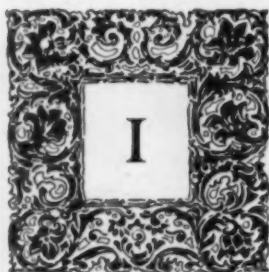
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